NEW YORK STATE
# Conservationist

October-November, 1948

Courtesy of Art News

Painting by Thomas Eakins

STATE OF NEW YORK CONSERVATION DEPARTMENT

## THE HUNTER AND HIS SEASON

*The fall has always been the time of year for hunting. With the crops in and the land that produced them apparently resting, waiting for winter, with the Hunter's Moon overhead, men have gone hunting for as many years as history can trace.*

*It seems doubtful if men ever hunted solely for food; probably there was always the element of sport. Even the cave man, the first artist, in scratching pictures of the hunt on the walls of his cave was perhaps expressing his appreciation of something less material than food for his stomach. In any case, the tradition of hunting for sport goes back to the Bible, to Alexander and the Caesars, and beyond. Obviously, it is still going strong.*

*What has changed though, and is still changing, is the concept of sport, the concept of man's relationship to the game he hunts. For sport, Genghis Khan used to hunt with his army; ten thousand men would encircle a vast territory and then close in over a period of two or three weeks, driving everything before them; when the circle was small enough the Great Khan gave the signal and the slaughter began. That was sport a thousand years ago.*

*We've had some fairly grisly versions of hunting for sport in our own history too, and not so long ago. Even today we have people who consider it sport to go out of a night and jacklight a deer. But in the main, and speaking for our own State at least, the tradition of hunting for sport seems now to be passing into pretty good hands. Most of our hunters are more thoughtful than they used to be, better informed, less selfish, more appreciative. They are inclined to count it a near miracle that in so populous a state as this there is anything left to hunt, or places to hunt in, and instead of bemoaning their fate they pitch in to secure the future. Conservation, quite a new word, has crept into their thoughts and speech, and they have accepted both the restrictions and responsibilities that the word implies.*

*There is more to this change than meets the eye. It has not been caused solely by the necessity for the hunter to reconcile himself to getting along with less. Rather, the hunter's concept of himself and his sport has matured. The other day a man who used to jack deer said that now, when he stands quiet in the woods with his gun, he sometimes feels like a visitor standing in the hall of a strange house, hat in hand.*

*Perhaps not many of our hunters have feelings like that. But certainly we've come a long way from Genghis Khan.—Editor*

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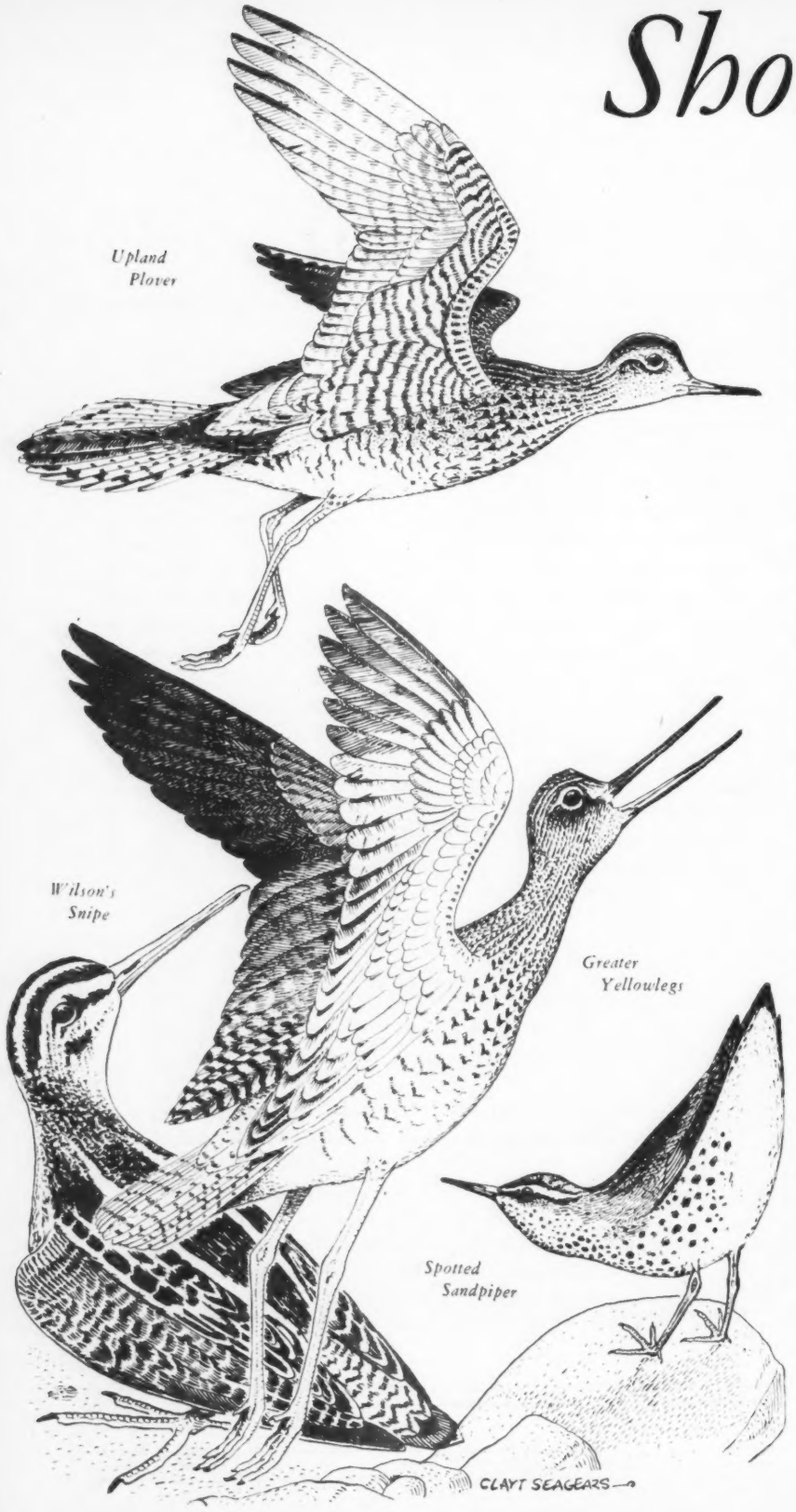
# Shorebirds




ALONG the mud-flat, flying close to the water's edge, came a dense flock of perhaps a hundred small salt-and-pepper colored birds. Suddenly they wheeled in unison and set their wings to alight. At almost the same instant a musket roared, and as the smoke lifted a man came from his hiding place, picked up the dozen or so that had fallen and retired to await the next flock.

The scene might have been anywhere along the Atlantic seaboard during the last century; the man, either sportsman or market hunter; the birds, members of the large group of species classed as shorebirds and known by such names as snipe, plover, sandpipers, surfbirds, tatlers, curlews and godwits.

Except for the woodcock, a bird of very different habits from the majority of the group, none of these species may now be hunted legally in the United States. The flocks encountered today are but remnants of the once mighty hosts that frequented our waters on their annual migrations south in the fall and north in the spring.

Some of the chief reasons for this great reduction are illustrated by the symbolic incident described above. These birds are mostly of small size and travel in compact flocks. In general they are relatively unsuspicious and decoy readily. They were thus highly vulnerable to the gunner, a single shot usually bringing down several and often a dozen or more. In fact, T. Gilbert Pearson has reported counting more than 40 that dropped at one discharge. It is said of a number of species that after some members of a flock fell, the others would solicitously return time after time in spite of being shot into repeatedly. Furthermore, they were highly prized for the table, and, until the present century, few states had either closed seasons or bag limits.

To the early settlers the abundance of waterfowl and shorebirds, like that of the passenger pigeon and virgin timber, seemed inexhaustible. Not only were they shot for personal use but for the market and for sport. During both spring and fall flights, the birds faced an endless gamut of gunners. Bag limits of 10 or 15 would have been considered ridiculous; the birds were shot

## Once legal game, killed in thousands, sold at market. What now?

by the wagonload and shipped by the barrelful.

But hunting during migration and throughout the summer was not the only cause of decline. Most of our shorebirds winter in Central and South America. There, too, they were subjected to heavy shooting pressure as well as to encroachment on their range by settlement. Moreover, the prairie regions of the United States and Canada, which originally constituted an important part of the breeding range of many species, were settled, the prairie sod plowed under and the sloughs drained, eliminating large areas that had formerly been highly productive. Snaring was also practiced effectively.

Inevitably shorebird numbers dwindled. The annual drain was far more than their low rate of reproduction each year could replenish. By 1900 observers counted tens where, less than 50 years before, there had been thousands. The need for action to conserve the supply became evident.

About this time several states, including New York, outlawed spring and summer shooting. Then, in 1913, similar restrictions were applied to the country as a whole under the Federal Migratory Bird Law. This law also provided complete protection at all seasons for all the shorebirds except the black-bellied and golden plovers, greater and lesser yellowlegs, Wilson's snipe and woodcock. Since then all of these except the woodcock have been removed from the game list, the plovers in 1926, the yellowlegs in 1927 and the Wilson's snipe in 1942. In consequence the tide has been turned although a number of species are still at a low ebb. Of those present in colonial times, only the Eskimo curlew is nearly, if not wholly, extinct.

MEMBERS of the shorebird group are found almost anywhere that mud-flats and beaches afford feeding grounds. Many also frequent open uplands and prairies. Altogether there are more than 150 species, of which 69 occur in North America and 42 in the Northeast. In general they are small to medium sized birds with long legs and slender bills, the latter less true of the plovers. The majority breed far north of the Equator and spend the winter south of it. Among them are some of the greatest migrants known, nesting above the Arctic Circle and wintering as far south as there is land. In fact, the distance traveled each year by the knot is exceeded only by that traversed by the arctic tern which, because it can feed on the open ocean, winters along the edge of the Antarctic.

During migration and on their winter range most of the species travel in closely-knit flocks, but on their breeding grounds they are much less gregarious. Except for the solitary sandpiper, which uses abandoned nests of other birds such as the robin and Canada jay, those found in North America nest on the ground. The eggs, usually four in number and commonly speckled, are large at one end and pointed at the other. In many species both sexes incubate. The young begin to run about as soon as they are dry. Only one brood is reared yearly.

Their food is chiefly animal. Their long bills are specially adapted to probing in soft earth and mud where they find worms, larvae and other forms of aquatic life. Small crustaceans, mussels, snails, and even small fish are also taken. Those species that frequent the uplands consume considerable quantities of grasshoppers, cabbage worms, army worms, cutworms and weevils. Some plant material is eaten on occasion, chiefly berries and seeds.

Representative of the many small sandpipers or "peeps", although it seldom flocks, is the spotted sandpiper. It is one of the few that breed in New York. Known variously as tip-up, teetertail or twitchet from its habit of continually bobbing its body up and down with its legs as a fulcrum, it is a common sight throughout spring and summer along all our waterways.

Representative of the larger sandpiper-like species is the greater yellowlegs which, with its smaller cousin the lesser yellowlegs, is found in New York only on migration. Somewhat more wary than most of the other shorebrids, both forms were known among hunters as "tatlers" because their sharp warning calls would often alarm other flocks.

Typical of the plovers is the killdeer which is familiar to every farmboy in the State. One of the earliest spring arrivals, it is primarily a bird of upland fields and pastures where it remains throughout the summer.

Similarly, the upland plover, although technically a sandpiper, is a bird of the grasslands. Formerly abundant, it has been severely reduced by market hunting and by settlement of the prairies both in the United States and Canada and in Argentina. In New York it breeds chiefly in the farmland area between Lake Ontario and the Adirondacks.

OF ALL our shorebirds, those best suited to serve as game are the woodcock and Wilson's snipe—primarily because they behave differently from the other members of the group. Their habitat is upland thickets, marshes and wet meadows where the hunter must seek them out, usually encountering only one at a time. After being flushed their flight is sudden, rapid and irregular. Moreover, both species winter to a large degree within the United States, the woodcock wholly so. Their reproductive rate, however, is low like that of the others. Nevertheless, the woodcock has maintained an abundance sufficient to warrant hunting and this year's breeding population showed a marked increase. Unfortunately, snipe numbers dropped sharply during the late 1930's, necessitating complete protection in 1942. While the causes of this decline are obscure, it is hoped the birds will recover so that hunting may again be permitted. Annual surveys of conditions are made by the U. S. Fish and Wildlife Service which is responsible for the final decision, as it is in the case of other migratory game.

As for the other shorebirds, they do not meet the requirements for a game species, especially in this day and age. While the hunting of them represents a nostalgic memory of the country's profligate youth, it is fortunate the protection given them was not longer delayed, and it is best that it be continued so that future generations may enjoy these wanderers of our waterways. We have few birds more romantic in their habits or more delightful to observe.

—ROBERT W. DARROW,
*Supervisor of Game Research*

# Conservation Education

Whether we have peace and plenty tomorrow, or unrest and want, depends on the young people of today. So, to be effective, conservation education must start early

THIS series of discussions began in the previous issue by stating the convictions and objectives which the Department is attempting to promote through its Division of Conservation Education and, specifically, through this magazine, its most effective current tool.

This second article views a new and significant trend toward conservation consciousness, and suggests the cause. It also lists the Department's equipment to provide a certain amount of education for adults and to *help* with the more necessary training of youth, a function of almost hopeless limitations until the necessity for conservation, and at least some simple basic practices for its accomplishment, can be productively taught in our schools. If you read no further, *that* is the meat on this page.

Conservation education for schools will be discussed in the next issue.

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Until recently a schoolboy's common conception of conservation was something he ought to go out and build a bird house about. Or he vaguely associated it with nature study, a diversion which he often figured must be prefaced, academically, by the classroom dissection of a pickled frog. His sole memory regarding this experience may be that the pickling solution came under the phooey department or that the frog had a very small brain, thus definitely establishing the superiority of boys over frogs.

We have no doubt but that the dissection of a rubbery amphibian is still valuable in the scholastic introduction of youth to the natural world; but only a comparatively few school children—except perhaps those in small communities where the Cornell Rural School Leaflets have been available, and used—really understand that a frog depends for his life on fertile land, as do boys.

Many teachers, *mainly on their own hook*, are beginning to cull through a sorry store of basic material for some sort of teachable lesson about the rampant raindrop or the soil's failing fertility. They seem to be doing this because, as adults, they realize that a lot of fuss suddenly is being made about dwindling natural resources. Actually, the fuss started some time back: Nearly 50 years ago Congress heard Teddy Roosevelt in his first message say that "forest and water problems were perhaps the most vital questions of the United States." Since then a lot of water has gone over the dam—so much that the public is at last beginning to view conservation broadly as maybe something vital to the American way of living after all.

Top indication of the trend is reflected editorially by the magazines of large national circulation. Rare today is an issue which doesn't narrate some aspect of conservation. For the first time, books about land use have hit the best seller brackets. Publishers literally are begging for usable material on the outdoors.

AS has been said, the objective of conservation education is to provide a sufficient understanding of conservation to obtain adequate accomplishment. It is obvious, or should be, that adequate accomplishment is not possible without the help, directly or indirectly, of a very large number of hands other than those belonging to conservation agencies.

Today the Conservation Department fortunately has an overflowing bin of "know-how." It now has trained service men scattered all over the State—foresters, wildlife men, fish men, experts in outdoors using. It has soil conservation services, tree nursery men, well equipped forest fire control and forest pest control agencies, fish salvage crews, pollution units, animal pest control men, water engineers, parks experts, rangers, game protectors, fish and game growers, stream management crews, fur resources men, fish and wildlife researchers, pathologists. Lots and lots of experts planting a seed here, a seed there. Day in, day out; nights too. All these men are engaged in a challenging task in which they are fiercely interested—virtually to a man. But, after all, they are *just* scratching the surface of what *might* be done if the whole public only knew what to do and, realizing its importance, would do it.

Until four years ago, the Conservation Department never had a unit responsible for getting this "know-how" across to the public. But in 1944 a few people gathered from Department personnel in other fields were put together in a Bureau which subsequently expanded and became the Division of Conservation Education. The Division works with such tools as the press, radio, television, exhibits, motion pictures, lectures, pamphlets, much individual correspondence, and this magazine.

The comparatively small sound film library of about 70 reels is booked solid weeks in advance. Exhibits, designed and built in the Division's work shop, are constantly on the move, can't meet the demand. This magazine, now only two years old, will hit 30,000 net circulation within three months. Sometimes it gets a whole bag of mail a day. The correspondence is enormous—and growing. Requests of the Albany office for speakers is rocketing, despite the constant night work by our field men.

All this is a healthy sign. But it causes despair, too. For it is a question of how far, economically, you can go to provide adequate *adult* conservation education. Enormous facilities would be necessary even to keep pace with the unpromoted adult demand for services.

But what about young people? Education in that field seems to offer more immediate hope.

During the year, conservation stepped into the school grounds. The administrative heads of the Departments of Education and Conservation opened a series of joint exploratory sessions. Commissioner Duryea added two trained men to the staff of the Division of Conservation Education. Their job: full-time development of conservation teaching aids for schools.

And the Division sponsored through District Game Managers two unique conservation education camps for boys and developed a permanent year-round camp where conservation can both be taught and seen. Next summer it plans to add two more camps. All these would give a total of about 400 hand-picked boys much painless and highly practical tested instruction on the wise use of natural resources. Generously mixed is training in human conservation. (For instance, how to get the most fun from fishing. See picture opposite.)

The teaching of 400 boys represents much effort by the Department, though dividends are very high. Yet 400 boys represents only a tiny fraction of the total school population. If only, you say to yourself, if only just some of the basic things taught in those camps to a few could be taught to the whole works in the schools—not as separate courses, but mixed in with social studies, the sciences, English—wherever the universally acclaimed curriculum permits.

THE feeling of frustration becomes acute when it it realized that this sort of adult and youth surface-scratching goes on while the children—*all* the children—are being taught in schools the fundamentals that combine to make tomorrow's citizens assured of a great and strong America; and yet those things which made America great, rich and independent in the first place (and which with the help of her citizenry can keep her so) *just aren't being featured!*

There's little question but that when today's school children can be made to understand the need for a healthy land, and how to make and keep it healthy, there will be less to fear for the safety of America's economic future.

—CLAYT SEAGEARS

OF all the tellers of tall tales that have come out of (or stayed in) northern New York's evergreen country, Cy Brown, fisherman and hunter extraordinary, ranked among the finest. This distinctly unusual man passed away some years back, but behind him he left a vast heritage of Adirondack mountain stories.

To say that Cy's experiences verged on the extraordinary is to put it mildly, yet Cy was a man of considerable background and had a bland manner of recounting his exploits, each, they say, being delivered to natives and pop-eyed tourists as King Solomon delivered his verdicts, each ringing staunchly of truth and wisdom.

Cy was a man of exceptional physical prowess. It is reported that he once beat a streak of lightning down a tree trunk, although it is *not* reported what he was doing in a tree top during a lightning storm. He was also an ingenious fellow, and on one occasion used black strap molasses to cement a log raft together on Cedar River Flow. His instinct, as usual, proved uncanny; as flies were attracted to the raft, so were trout, and Cy had no trouble in scooping up barrels of them with a frying pan.

Cy died a natural death. There was a time, however, when he was threatened with a most unnatural one, and that's a story still recounted by native Adirondackers. It was the time he and a friend named Prentiss were chased by 30 ravenous wolves in the mountains north of the settlement on Indian Lake.

On a bitterly cold and clear morning the two men were aboard a sled on an old logging road about ten miles from home. It was with a thrill of sheer horror that they heard the quietness of the woods shattered by the lonely, chilling howl of a wolf pack in full pursuit. In a flash Cy knew this was no ordinary pack; stories brought in by local hunters had pegged these wolves as being expertly led by a huge and fearsome beast of the utmost valor and daring. The whole pack had a reputation for uncanny wisdom, cruelty and fearlessness, and their leader in particular was reputed to have an appetite of immense proportions.

AS he lashed the team to top speed, Cy's spine tingled with the memory of a lonely hunter treed by the pack. It was common knowledge that the wolves had obtained two beaver to gnaw down the tree, and the terrified huntsman had time to kill only ten before the pack, in a gesture of supreme derision at all hunters, ate him up and left only his pants hanging from a limb. (It also is a matter of record that five of the wolves which ate the cartridge belt later blew up.)

There was little comfort in these memories. But both men prepared to sell their lives valiantly, and Prentiss, armed with a rifle, started shooting the moment the pack hove into view. With his first shot he killed one. As the beast fell, the other 29 pounced upon it, tarried only long enough to devour it, and then resumed the chase with redoubled ferocity and appetites keenly whetted.

Cy and Prentiss knew then that these wolves were no different from others; they were cannibalistic as well as half-starved, and they would eat a wounded or dead member with as much compunction as a helpless rabbit. Neither man felt happier for this knowledge, but an idea blazed in Cy's brain. He ordered Prentiss to keep shooting the foremost wolf. Expertly his friend picked off one after another, fighting against the sway of the sled. In a short time he had killed ten, and as each one fell the pack stopped for its quick grisly meal.

By the time the horses began to show the strain of the terrific pace, the animals had been cut down to 15, but they were as ugly and fierce as when the pursuit started. As Cy lashed the horses, Prentiss redoubled his efforts and managed to kill ten more, and as each one fell there was a short breathing space for the horses. Finally it could be seen that the five remaining wolves, each containing his share of 25 others, were slowing up from sheer weight.

But further misfortune bedeviled the men. Prentiss discovered he had only four cartridges left. By this time the horses were again staggering and application of the whip could no longer obtain more speed. The wolves were only a few yards distant; and although Prentiss drilled four more, by the time the lone remaining wolf—the real leader of the pack—was left, the horses were barely able to stand.

Cy, peering anxiously ahead, abruptly exulted. Home and safety were visible! So, however, was the wolf, although strange things were now happening in this slow motion drama. The wolf stopped frequently. Once it emitted a gigantic burp. Often it sagged wearily against trees before resuming the pursuit. And the horses—they were reduced to a weary stumbling plod.

Eventually, however, the sled drew up in front of the house. Cy and Prentiss dashed inside, Cy to reappear an instant later with a pork chop in his hand.

"Whar you goin'?" shouted Prentiss.

"I'm goin' ter fix thet thar wolf!" muttered Cy.

HE approached the beast as it crept up. He noted its extended belly. He walked directly up to it and for an historic moment man and animal eyed each other. Suddenly Cy shoved the pork chop into the animal's face.

The wolf, filled with 29 of its companions, took one look at the food, groaned despairingly and collapsed at Cy's feet.

"Died a' sheer disappointment," Cy recounted later. "On purpose, I didn't put no gravy on the pork chop."

—BARNETT FOWLER

# IF YOU HAVE TO FIGHT FIRES

SOONER or later, most able-bodied persons in the rural districts of this State will be called upon to fight a grass, brush, or forest fire. If conditions develop this fall as they did last (and at the present writing the prospects are far from encouraging) the call will come sooner than later. How will you answer it? What facts about forest fires do you need to know? What tools will you grab from your barn, and how will you use them?

First, some facts. A brush, grass or forest fire requires three things: (1) oxygen to support combustion, (2) fuel to burn, and (3) temperature sufficiently high to produce and maintain combustion. Remove one or more of these requirements and fire cannot burn. A fire can be stopped by depriving it of oxygen, or smothering it; or by depriving it of fuel, and letting it burn out; or by reducing the temperature below the combustion point by applying water. These are the fundamental principles of fire-fighting, and they are used in fighting any fire.

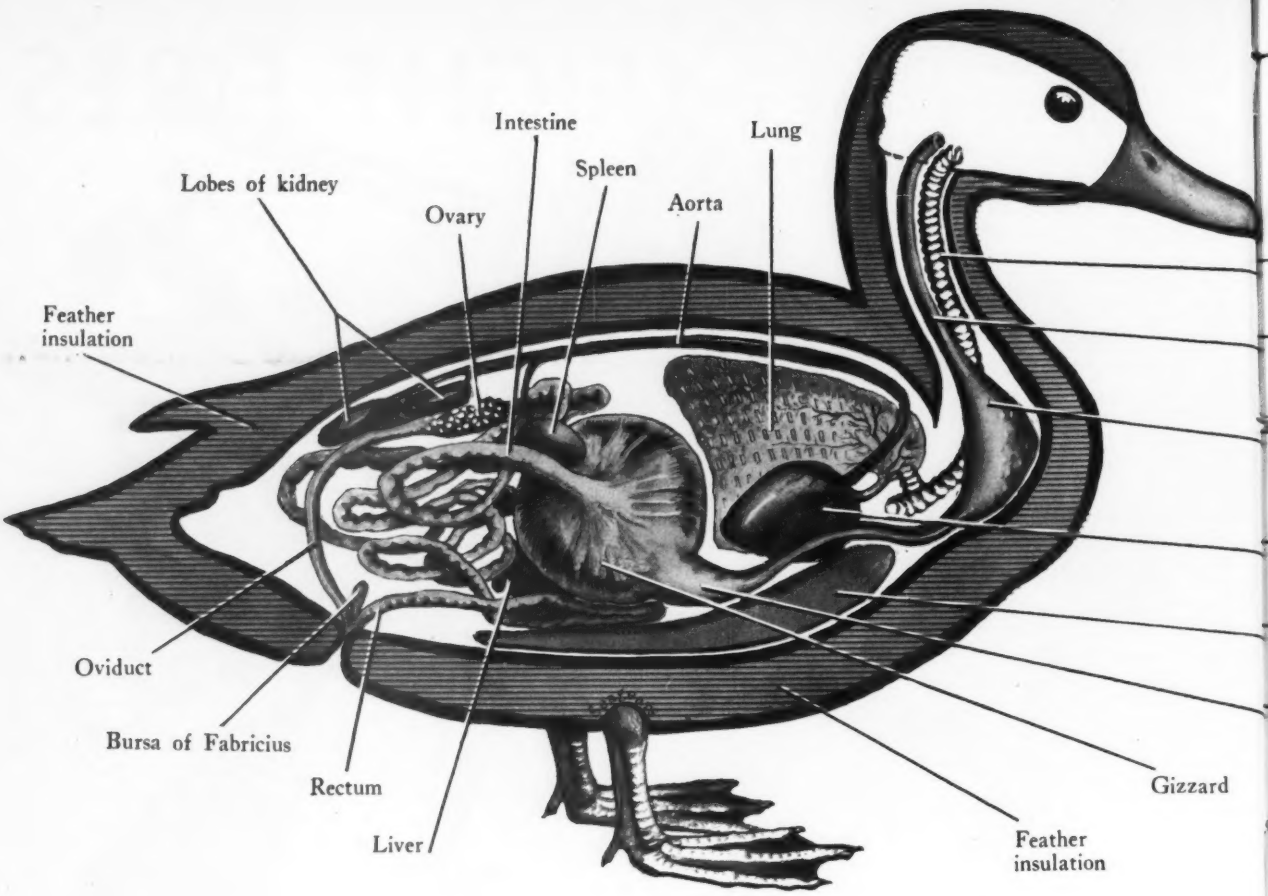
A few more facts. Fires burn most rapidly uphill, and advance with the wind, frequently projecting "fingers". Fire may be spread by embers carried through the air. Fires spread little against the wind, and slowly sideways.

For small fires, there are ample tools around all homes to extinguish them. These include the shovel, rake, hoe, broom, burlap bag and axe. With the exception of the wet bag or wet broom —which can be used effectively to smother flames—these tools should be used primarily to reduce the availability of fuel on which the fire depends. The shovel, rake, broom, axe and other tools may be used to construct a line in front of the advancing fire. This line need not be wide, but from it should be removed all inflammable material. The intensity of the fire will be reduced when it reaches this line, and there will be an opportunity to extinguish the few embers that cross it.

This line should be constructed at an oblique angle away from the advancing flames, so that the fire will not reach all points of the line at the same time. Where the fire has developed "fingers" or where the front has assumed an irregular shape, do not follow the outline of the fire; construct the line straight across the front, again on an oblique angle. After the front has been stopped, the sides and the rear of the fire should be extinguished either by throwing the burning material back into the burned-over area, or by continuing the line entirely around the fire.

In closing, a word of caution. Small fires may be easily extinguished, large fires require help. Do not hesitate to call for it.

—KINNE F. WILLIAMS,
*Supt., Bureau of Forest Fire Control*




# Anatomy of a Duck

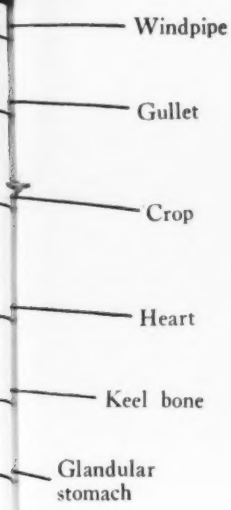
NOW is the time; the ducks are southward bound. Not so many as ten years ago, but more than last year, and certainly enough to quicken the pulse of the gunner as he studies the marvels of their flight, or of the layman as he watches a bunch cautiously circle in the dusk and drop out of sight into a quiet pond over the hill.

Almost all of us are thrilled by the flight of a duck. But how many have ever stopped to ask what makes a duck tick? And how many, finding a duck floating on a pond in mid-summer, dead for no apparent reason, have asked what it was that made him stop ticking?

A knowledge of the duck's anatomy often provides the answer to both questions. During recent years I've been peering inside hundreds of ducks and have at last begun to know my way around through their stuffy and often oderiferous interiors. My interest has been that of the "friendly undertaker", but even an undertaker learns a few things worth passing on to the living.

Before going into the internal furnishings, let us consider the duck's feathers. The body feathers are labeled "insulation" on the illustration because that is perhaps their most important function. One of the more common disruptions of this insulation comes from contamination in oil-slicks along coastal waters and on the larger lakes. The oil gums up the feathers so that they do not fluff, flight is impaired, and the birds may starve, or in the winter, cold air and water may reach the skin and result in fatal chilling. Again, some birds may become so badly water-logged that they drown.

Beneath this feather insulation and protected by it are the viscera. The digestive tube is designed to extract nourishment from all that enters, and it consists of a gullet, crop, glandular stomach, gizzard and intestines. The liver, also




**Female Black Duck**

a part of the digestive system, secretes bile which aids in the digestion of fats. It is likewise an important storehouse for reserve food in the form of glycogen starch. The pancreas (not pictured) is a tan-colored gland resting in the first loop made by the intestines as it leaves the gizzard. This organ secretes enzymes for the digestion of fats, proteins and carbohydrates, and also produces a hormone called insulin which regulates the quantity of sugar in the blood.

A black duck's digestive canal is approximately three feet long, but when one examines it—inch by inch and from stem to stern—for all the parasites and diseased conditions that can and have been found in it, its length seems never ending. Through this food canal the duck acquires most of its "uninvited guests" including round worms, tapeworms, spiny-headed worms and flukes. And occasionally ducks pick up lead shot in the course of collecting grit. As the lead pellets are ground down in the gizzard the lead is absorbed and a fatal case of lead poisoning may result.

BOTULISM likewise gains access with food or water. In warm, sluggish, shallow water areas, certain bacteria which grow best where little oxygen is present produce a powerful poison known as botulinus toxin. A very small quantity of this toxin in the water may prove fatal to ducks. It is of considerable danger to migratory waterfowl resting over on the alkali flats in some of the western states, and as a matter of fact this disease was first known as "alkali poisoning" or "western duck sickness."

The respiratory system is composed of the windpipe, bronchial tubes and the lungs, and is also connected to air spaces in the body cavity and wing bones. It is no exaggeration to state that a bird can breathe through the end of a broken wing bone. Worm parasites are sometimes found in the air passages of ducks, but perhaps one of the more common ailments of the respiratory apparatus is aspergillosis, an expensive word which refers to a fungus infection caused by inhaling spores of a common black mold. The spores start growing in the lungs or air sacs, and the resulting symptoms are those of a wasting disease very similar to those usually observed in tuberculosis.

A small fraction of the duck's blood system is pictured on the opposite page. The heart and great artery called the "aorta" are indicated, but from there on the imagination must fill in the arteries, arterioles and capillaries which feed all the tissues of the body. Also left unpictured are the venules and veins which carry the stale blood back to the heart, whence it is pumped to the lungs for refreshening. The blood then resumes its endless course through the body.

I imagine very few ducks (wild that is) die from hardening of the arteries or a "stroke." There is, however, a malaria-like disease of the blood which must be mentioned as one of those things that can upset a duck's internal organization. This disease is transmitted by the bite of a common blackfly just as malaria is given to man by the bite of the anopheline mosquito. Fatality of this disease among mallard and domestic ducklings may run as high as 100 per cent. We have evidence that indicates, however, that those species of wild ducks which commonly nest in blackfly areas (wood ducks, blackies, mergansers, etc.) tolerate this disease without too much trouble. Most can also withstand the slender flat-worms (flukes) that often inhabit the blood vessels of ducks, although occasionally an artery leading into a vital organ becomes blocked. If the blockage continues, the results may be fatal.

The reproductive system is composed of the sex glands (ovary or testes) and the tubes which convey the eggs or sperm to the outside (oviduct in the female, sperm ducts in the drake). During the season of heavy egg-laying things sometimes go wrong with the ovary and oviduct. Tumors, bacterial infections or mechanical obstructions in the egg canal are not uncommon.

The excretory system consists of a pair of elongated, lobed kidneys, each provided with a tube (ureter) leading the wastes to the outside. Unlike mammals, birds eliminate very little water through the kidneys, and as a consequence they have no urinary bladder. Their kidney wastes are composed primarily of whitish salts very rich in nitrogen and suspended in just enough water to allow their flow through the ureters. Small flat-worms are sometimes found in the kidneys or their tubes, but I have seldom observed any illness in this part of the duck's anatomy.

TO BE noted is the small, blind pouch extending forward from the top side of the intestine near the anus. It is labeled "bursa of Fabricius" and is a temporary structure whose usefulness to the duck is questionable. It is, however, of value to the game investigator who wishes to gather information concerning the age of captured wild ducks. The bursa is present only during the first nine or ten months of the duck's life and is therefore useful in separating "birds of the year" from older ones in the fall and winter seasons when ducks are being banded during migration. The presence or absence of the bursa is determined by use of a blunt probe without injury to the live bird.

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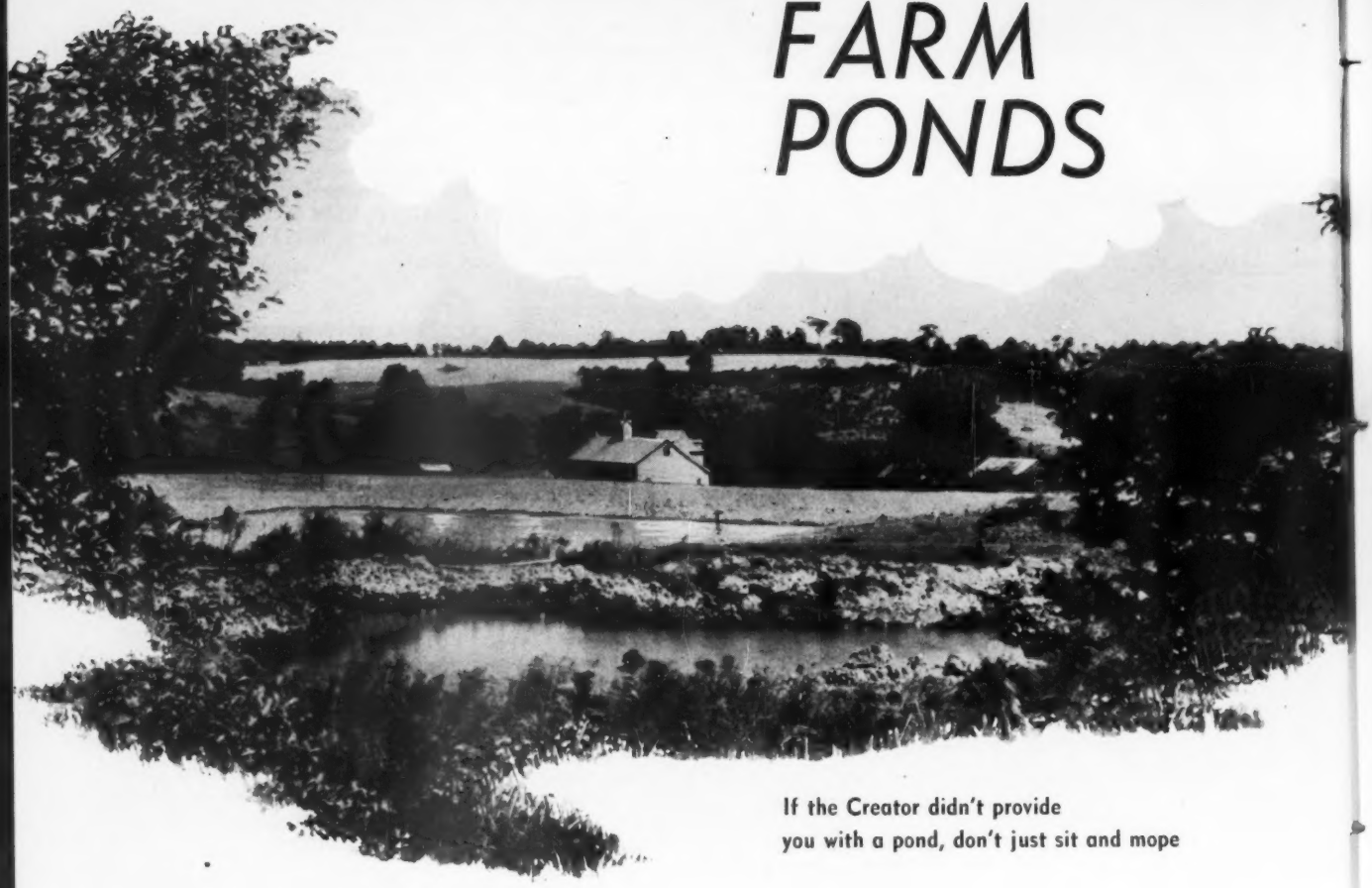
This is indeed a sketchy presentation of a duck's anatomy. He has much more, and as is true of any living thing, there is more to him than the sum of all his parts. But to more thoroughly understand some of his needs and problems in life one must get under his skin and explore a little.

—E. L. CHEATUM,
*Senior Game Pathologist*

# FARM PONDS



If the Creator didn't provide
you with a pond, don't just sit and mope

A BULLDOZER of medium size rents for about 10 dollars an hour. Cheap at the price is this wondrous machine, but thrown into the bargain without extra charge is that fiend, that wild-eyed knight of the soil beside whom the proverbial truck driver is a pale and puny figure indeed. For your 10 dollars, friend, you get not only the bulldozer, but also the man who operates it.

It is doubtful if anybody will ever understand the bulldozer operator. He lives in a mad world of his own, and once he has lowered his blade there is no known means of getting through to him until he's finished whatever he thinks needs finishing. Nevertheless, for better or worse, with this mad genius at the controls a bulldozer can do in two hours what 10 men with shovels and wheelbarrows used to do in in two weeks.

Needless to say, bulldozers have revolutionized the farm pond business. Quite a few of the simpler ponds, right here in New York, have been built in less than two hours and at a total cost of less than 30 dollars, thanks largely to the bulldozer, and even on the bigger, more complicated ponds bulldozers have done most of the heavy work and have decimated time and costs in doing it. This is good, because almost everybody for one reason or another likes a nice body of water. The Soil Conservation Districts in this State have planned 1,111 farm ponds, and 729 of them have already been built. Plenty more have been built without the help of the Districts.

In the right spot, a farm pond makes sense. It's a good way of utilizing a section of land that isn't of much use for anything else. The impounding of water improves the water table by storing for future use rain that would otherwise run off down your brook. Farm ponds provide water for livestock. In many cases they are built for fire protection. Fish can be raised in them, and also muskrats. A small body of water, with its banks properly planted, is a drawing card for almost all game species, small and large, bird and quadruped. You can swim in, skate on, even go boating on a small pond. And last but certainly not least, a good farm pond is nice to look at.

It is not possible, however, to build a farm pond that will serve all of these purposes. If you want a pond that will attract wildlife, then you will have to fence out your cattle; if you're solely interested in raising muskrats (write our Art Cook about this—it works) the water shouldn't be more than two feet deep, and that's no good for fish; if you want to raise bass and bluegills, then the water should be so fertile as to be almost opaque, and not many people want to swim in water like that. There are plenty of other conflicts, all suggesting that what's sauce for the goose may be sauce for the gander, but not for the brook trout.

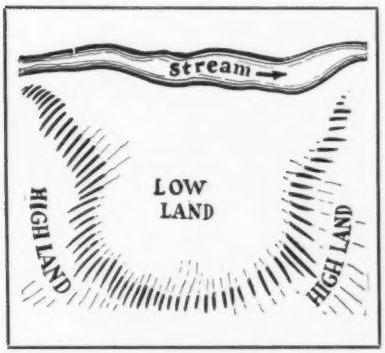
WHEREFORE—there are two ways of approaching the problem of building a farm pond. You can decide what you want your pond for, and then look for a site where such a pond might be built. Or you can take an obvious site and build a pond on it, making

the most of whatever opportunities the site affords. In any case, if you're set on building a farm pond, the best, easiest and cheapest thing for you to do is to get in touch with your county Soil Conservation District, provided, of course, that the county you live in has been organized into a district, and that you've signed up with it. Technicians from the district will look over your property, and if they think you've got the right setup they will help you in planning the pond and in getting the equipment to build it, although there will probably be considerable delay because of a backlog of requests.

ON the other hand, if you have to go it alone the following observations may be of help:

The first consideration in building a farm pond is the problem of a water supply. There are three possibilities: supply by surface drainage, by spring, or by water diverted from a stream. If surface drainage alone is to be relied upon, from 10 to 20 acres of watershed area will be required to feed adequately one acre of pond, and even then the water level will fluctuate considerably according to wet or dry seasons. Springs also have a tendency to dry up at embarrassing moments. Probably the most reliable source of water is a brook from which water can be diverted either by pipe or open ditch into the pond. Damming of the stream itself is not recommended; there is no means of controlling the flow of water, and during freshets the pond will fill up rapidly with silt, gravel, old inner tubes, et cetera.

Here again, your water needs depend on the type of pond you want.




If you're going to raise muskrats, all you need is enough water to maintain the level in the pond; in fact, it is sometimes possible to build a muskrat pond by touching off a few sticks of dynamite in an already existing marsh. Nor does the warm-water fish pond or the duck pond require an elaborate water supply system; surface drainage will usually do the trick. But if you want a clear, cold-water pond, if you want to raise trout, if you want something nice to swim in, then you will probably need a good spring or water diverted from a brook.

Assuming that you have solved the water supply problem according to your needs, next comes the choice of a specific location for your pond. Obviously a site should be chosen which requires a minimum of excavation and the smallest possible dam. A good natural site is a depression in a valley floor, with a fairly narrow neck at the lower, or outlet end, so that the dam need not be large.

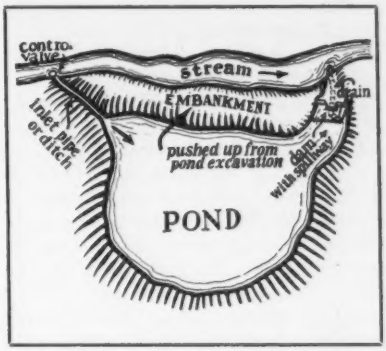
The actual construction of the dam is very simple in theory. Essentially, it consists of enlarging the depression and then sealing it off with a dam, and this is where the bulldozer comes in. By taking material from the bottom of the site and piling it in embankments along the lower sides, it increases the area and depth of the pond and at the same time reduces the length of dam that will be required. Incidentally, if more than one square mile of watershed drains into your pond; if the dam is over 10 feet high; if more than a million gallons of water are impounded —your project must have the approval of the Department of Public Works.

THERE are certain construction features that should be standard in all farm ponds. A prime consideration is to make sure that the soil will hold water, and this applies to both the dam and the pond floor. Clay is ideal, sand or gravel not suitable at all. Second, whatever the water supply, some provision must be made so that the flow into the pond can be controlled. Third, there must be a spillway to handle overflow. Fourth, there should be a drain pipe at the bottom of the dam so that the pond, and the silt in it, can be flushed out when necessary.

The pond shown in the diagram is *not* a typical farm pond. It is, on the contrary, a fairly elaborate one with most of the standard features and a good many of the more expensive, often unnecessary embellishments. We illustrate it here to give an idea of extreme costs:

(1) Bulldozers, as previously advertised, are cheap at 10 dollars an hour. They excavate the low land and build the embankment. (2) Steamshovels rent for about 15 dollars an hour. In one hour a steamshovel digs a ditch three feet deep, two feet wide, and 50 yards long, which handles your intake problem unless you want to put pipe in the bottom of your ditch. (3) A concrete dam 20 feet long, nine feet high, and averaging one foot in thickness, with a spillway built into the top, should cost roughly 175 dollars installed by the contractor. (4) Twelve-inch galvanized iron drain pipe costs about one dollar and 65 cents a foot. (5) A board plug fitted into the end of the drain pipe will serve as a valve; surely you have a suitable board lying around.

ALL this is assuming that so far you yourself have done only the planning. But as the bulldozer rattles off into the distance, the operator in search of oil for his machine and some special nectar for himself, your work begins. The raw banks of your pond must be seeded or planted to prevent their silting away; seeded, perhaps, with winter rye and a recommended grass mixture or with a combination of oats and grass mixture, depending on the season; planted, perhaps, with silky dogwood, beaked hazelnut and nannyberry. And fenced, perhaps, with multiflora rose. (See next page).




What you've got (perhaps) is a pond eight and a half feet deep in front of the dam, deep enough to swim in and deep enough so it won't freeze to the bottom and kill your trout. (In view of your water supply, and as the result of a guarded suggestion from our Aquatic Biologist Bill Greene, you've decided to try trout instead of the usual ten-to-one bluegill-largemouth formula). Around your shores you have a shelf of water about six inches deep where will grow smartweed, duck potato, burreed, sedges and cattail, all attractive to wildlife and highly esteemed by muskrats and ducks in particular. And on the banks you have shrubs for upland game.

You've got a nice addition to your property—nice, and practical too. And if you need further reassurance, as the water starts over the spillway you're entitled to feel that you've struck a solid blow for Conservation.

—P. W. FOSBURGH

# FOUR SHRUBS

SHRUBS are not sufficiently appreciated. On many farms in New York where briar patches and scrubby growth have been allowed to take over pastures and meadows, shrubs have been ignorantly condemned along with the briars and the scrub, and some feeling has arisen that all are plants to be destroyed.

Good farmers know better. Properly managed, shrubs fit into the scheme of efficient farming. They belong at the edges of the woods, in fence rows, in hedges, on stream banks, along drainage ditches, and on untillable spots in cultivated fields—in almost any location subject to erosion or otherwise unproductive agriculturally—on the fringes of cultivated land. They are good soil binders; they harbor and feed birds and animals that control insect pests on the farm; they produce edible foods; they add beauty and value to farm land.

And to wildlife, shrubs are invaluable. At the edges of fields and woods, along streams or ponds lined with shrubs, along hedges and fence rows, wildlife seeks food and cover. This is especially true of our upland game. The planting of shrubs, or the encouragement of already existing ones, in such locations will increase the local populations of grouse, rabbits, pheasants and quail, all of which are attracted by an environment in which they can meet their requirements for food and cover within a small cruising radius. Wildlife needs a balance between breeding, escape, and winter cover, as well as a year-round supply of food and water, and shrubs properly located and selected as to type go far toward establishing this balance. Shrub borders and hedgerows also serve as travel lanes for birds and animals passing across an unprotected area.

Where valuable shrubs already exist, they may be easily encouraged by cutting out competing trees and plants; where they do not exist, they may be easily planted. For general purposes, the spacing used in planting should be about the same as that for seedling trees, about five feet apart, and once established they will need little attention other than protection from grazing during the early stages. Shrubs have a tendency to dominate their site; they use whatever sunlight, moisture and nutrients are available, so that there is usually little need to worry about their surviving competition from other forms of plant life.

Our Division of Fish and Game has started the production of food-bearing shrubs at the Department's Painted Post Nursery. For the time being, at least, the plants produced will be used to supply the needs of the Soil Conservation Districts as one phase of the assistance being given by the Department to the soil conservation program.

In the future, perhaps, we may be able to supply shrubs direct to private individuals just as our Bureau of Nurseries supplies seedling trees. This would involve a costly expansion of our existing facilities, and for the present individuals seeking shrubs must obtain them from a commercial nursery or by application to the county Soil Conservation Districts. Or, of course, they can be transplanted from wild stock.

The following are representative shrubs now being raised at our Painted Post Nursery:

**Multiflora Rose** (*Rosa multiflora*): This is a tall, vigorous shrub-type rose with arching branches. In June, it is covered with a profusion of medium sized, snowy white flowers. The plants provide excellent cover and in the fall produce numerous red fruits (hips) which are eaten by pheasants, grouse, bobwhites and other birds. The branches are sometimes browsed by rabbits and deer.

Introduced from Japan, this plant has lately become popular with erosion control experts because of its adaptability to poor soil and its resistance to livestock browsing. It makes an excellent hedge, and if the plants are placed not more than a foot apart a "living fence" capable of holding any kind of livestock can be developed. Such a fence can be established by using one-year-old seedlings planted in the spring of the year. The plants should flower in the second or third year.

**Silky Dogwood** (*Cornus amomum*): This native shrub, with flat clusters of white flowers in June and light blue berries in late summer, is a most attractive plant. Its inner bark was widely used for smoking, either alone or mixed with tobacco, by both Indians and white

*Multiflora Rose*

*Silky Dogwood*

# *for upland game*

settlers in the early Colonial days.

It is adaptable to a wide variety of soils and a wide range of moisture conditions. It is a valuable plant in controlling soil erosion because of its ability to establish itself on almost any site and because of its thicket-forming habit, and it also affords good escape cover for wildlife. The fruits, which form in the fourth or fifth year after seedling planting, are eaten by grouse, pheasants, quail and smaller birds.

The silky dogwood is best planted in the spring. One or two-year-old seedlings can be used, spaced about four feet apart, but in order to insure good growth in the early stages it is recommended that the planting be done in a ploughed furrow.

**Beaked Hazelnut** (*Corylus cornuta*): This is another native American shrub. It bears a sweet, chestnut-brown nut.

Blooming in March or April before the leaves appear, this is a common plant in our hedgerows and thickets. The nuts, which ripen in August or September, remain on the bushes until late fall and are a favorite food of gray squirrels and deer, although grouse, pheasants and quail are also fond of them. In addition to supplying excellent food, the shrub offers fair cover.

To establish this plant, it is recommended that one or two-year seedlings be used. The plantings should be made in furrows or in holes with sufficient sod removed to prevent the young plants from being stifled by rank grasses and weeds. Fairly good soil is required. For hedges, a single row with one-foot spacing, or a double row with staggered two by two-foot spacing, will prove most satisfactory.

The hazelnut is particularly attractive to wildlife if used to make a shrub border along the edges of woodland areas. The plant matures in from five to ten years, but nuts in any quantity will not be produced until six or seven years after planting. Even at that, the plants should be protected from livestock browsing if good nut production is to be expected.

In this general description the American and beaked hazelnuts have been considered together. If any distinction is to be made, perhaps the American variety is better suited to lower lying sites and to the sections of the State with a milder climate.

**Nannyberry** (*Viburnum lentago*): This is one of the taller viburnums, developing on the better sites into a tall shrub. In May or June it has large showy clusters of small white flowers, the clusters measuring about five inches across. The fruit, dark blue with a grape-like bloom, is edible and sweet, ripening in September or October. These berries are said to have been an important food of the Indians, who fermented them and pressed them into cakes.

The nannyberry should be planted on well drained and fairly fertile soils. Two-year-old nursery grown seedlings should be used, spaced about six feet apart and set in a ploughed furrow or large scalped area so as to give them a good start without too much competition for moisture.

This viburnum is not recommended for general use. It can, however, be planted with good effect on wildlife border strips in the portion next to the trees. The fruits are attractive to wildlife, especially in the late fall.

Two valuable plants, related to the nannyberry but lending themselves to a greater variety of uses, are the highbrush cranberry and the arrowwood viburnum. The former is now being produced at the Painted Post Nursery, and as seed collections are extended in accordance with increased demands for shrubs, these and others should be added to our inventory.

MODERN game management stresses the importance of environment as probably the principal factor affecting game abundance. Shrubs such as we have described here contribute enormously to a congenial environment for wildlife. That is why the Department's Division of Fish and Game has this year set aside $10,000 for the development of the nursery at Painted Post, and although it is recognized that the output from this nursery will not satisfy the Statewide demand, considerable expansion of our shrub-raising facilities has already been planned.

We feel that this project is headed in the right direction.

—ARTHUR W. HOLWEG,
*Supervisor, Game Management*

*Beaked Hazelnut*

*Nannyberry*

# RABIES
## and fox control

*A report on what this Department and allied agencies are doing to combat scientifically a serious situation*

MAD dogs are nothing new to the people of this or other states. Since the early days of settlement in this country, there have been cases of hydrophobia or rabies reported from time to time.

A virus disease involving the nervous system, rabies can readily be diagnosed from laboratory examination by the presence of Negri bodies in the brain tissue of infected animals. Where such lesions are not evident, a certain diagnosis is determined by inoculating laboratory mice with brain tissue from the suspected animal.

But if mad dogs are nothing new, mad foxes are something else again. The presence of rabies in wild animals, principally foxes, is not common in New York. Even throughout the country there have been comparatively few serious outbreaks in the past century. This, however, may well be due more to a lack of accurate reporting than to an absence of the disease. Certainly the present epidemic — which began in earnest in mid-1946 — is the most severe on record for the State. Starting from a point in southern Chenango County, the infection extended to cover parts of 20 counties by May of this year.

How did it get started? Why did it spread so extensively? These questions are hard to answer, and bring up the old argument as to whether dog bit fox or vice versa. Curiously enough—or is it naturally—the rabies epidemic coincides with the current high in fox abundance, and cases of rabies in foxes are being reported throughout the Appalachian region from New York to Florida. That so great a spread occured here may reflect a particularly virulent strain of the disease, although such an assumption cannot be verified.

The effects of the current epidemic are many fold. First, of course, is the danger to human life from crazed animals. Many interesting stories, verified by public officials, have come to light of dogs traveling great distances and biting many animals in the course of their travels. Foxes have been found in farmyards, barns and houses where they were killed either before or after biting people and farm animals. Children have picked up apparently tame foxes only to discover later that the animal was rabid. Many persons have had to take the Pasteur treatment after having been bitten by rabid foxes or dogs.

THIS Department first became involved in the current outbreak in the winter of 1945-46 as the result of a request for assistance from the Chenango County Farm Bureau. Our concern mounted due to extensive losses of cattle in that area coupled with the ever present danger to human life. At first attempts were made to "spot" trap foxes in the general area where diseased animals were reported. Then in the late summer of 1946 it became apparent that the outbreak was more than of local county concern, and at a joint meeting of members of the State Departments of Health, Agriculture and Markets, and Conservation, a detailed program was worked out to cope with the problem. This involved the extensive vaccination of dogs in a number of counties and the establishment of a trapline to take foxes in a belt around the known area of infection. The purpose of this line was to create a zone of scarcity through which infected foxes would not travel and bite others, to continue the spread of the disease, it being pretty well established that stricken foxes do not wander far in the contagious or final stages of the disease.

The original trapline was established in October, 1946 and manned by 10 carefully selected professional fox trappers. The line, roughly a semi-circle with its base on the Pennsylvania border, included all of Broome, Chenango and Cortland counties, and parts of all the counties contiguous to these three. This line was maintained through the winter, but break-throughs in Madison and Otsego counties necessitated changes in those sectors in early spring. Another break-through in Delaware County made it necessary to extend that line into parts of Sullivan County in July, 1947. This line was maintained with a few changes until December of that year, although new cases of rabies developed in several sectors outside the line in early winter.

Cases of rabies in dogs, cattle and foxes within the Zone continued to be reported and were verified by laboratory examination. During the four years ending in May, 1948, a total of 2,076 rabid animals had been positively identified in the various state laboratories—all coming from the so-called central focus. This summary is shown in the following table by years:

RABID ANIMALS IDENTIFIED

| | 1945 | 1946 | 1947 | 1948 (thru May) | Total |
|---|---|---|---|---|---|
| Dogs .... | 139 | 90 | 39 | 15 | 283 |
| Foxes ... | 50 | 308 | 273 | 153 | 784 |
| Cattle ... | 76 | 432 | 325 | 53 | 886 |
| *All other | 8 | 42 | 40 | 33 | 123 |
| Totals ... | 273 | 872 | 677 | 254 | 2,076 |

* Horses, goats, cats, raccoon and others.

It will be noted that cases in dogs have gone down since the high number

of 139 in 1945. This appears to be a direct result of the effectiveness of the vaccination program launched in 1946 and 1947.

Cases in foxes were highest in 1946, but it is known that many rabid foxes found dead are not reported, particularly in sections where the disease has existed for some time.

The reported loss of 886 cattle in four years represents an economic loss, in these times when cow prices are high, of about a quarter of a million dollars.

Rabies spread considerably during the three years 1946-48. In January, 1946, only five counties were involved. The next year it had increased to nine, and this January there were twenty involved. To indicate the size of spread, the following table shows reported cases (in foxes only) by counties up to May of this year:

SPREAD OF RABIES
AND COUNTIES INVOLVED

| County | 1945 | 1946 | 1947 | To May 1948 |
|---|---|---|---|---|
| Broome | 11 | 32 | 9 | 1 |
| Chenango | 38 | 110 | 11 | 1 |
| Tompkins | 1 | 16 | 30 | 35 |
| Cortland | .. | 95 | 28 | 1 |
| Tioga | .. | 11 | 15 | 4 |
| Madison | .. | 13 | 50 | 1 |
| Otsego | .. | 20 | 15 | 4 |
| Delaware | .. | 11 | 29 | 14 |
| Oneida | .. | .. | 14 | .. |
| Onondaga | .. | .. | 28 | 2 |
| Schuyler | .. | .. | 11 | 24 |
| Chemung | .. | .. | 4 | 14 |
| Sullivan | .. | .. | 9 | 13 |
| Herkimer | .. | .. | 13 | 6 |
| Montgomery | .. | .. | 6 | 2 |
| Schoharie | .. | .. | 1 | 8 |
| Wayne | .. | .. | .. | 1 |
| Seneca | .. | .. | .. | 20 |
| Fulton | .. | .. | .. | 1 |
| Steuben | .. | .. | .. | 1 |
| Totals | 50 | 308 | 273 | 153 |

It is interesting to note that of the three counties, Tompkins, Chenango and Broome, having rabid foxes in 1945, Tompkins in the fourth year shows an increased number of infected animals, while in Chenango and Broome, at least through May, only one case was reported for each county.

THE effectiveness of trapping measures cannot as yet be fully determined. Apparently, other than the break-throughs mentioned, the trapline was effective in slowing down the spread of the epidemic. During the period October, 1946 to March 30, 1948, 2,805 foxes were trapped from the so-called "Zone of Scarcity". In addition, 807 foxes were taken by regularly employed trappers, called Nuisance Wildlife Control Personnel, adjacent to or within the "Zone of Scarcity" in an effort to bolster the line, and, in some cases, to surround isolated reports of rabid animals outside the Zone. The foxes trapped included both reds and grays, the proportion in any locality depending on the abundance of each species. Both are equally susceptible to rabies.

Success in "line" or "belt" trapping varied with seasonal weather conditions and with the habits of the fox. Thawing and freezing weather made it difficult to keep a trap open and necessitated constant attention on the part of the trapper. From the end of the mating period in mid-winter to the time the pups start to shift for themselves in September, fox populations are fairly static and trapped out sections may be expected to remain so. However, during the fall when the young of the year are setting up their own territories, and during the mating season, considerable changes in territory occur. Effective trapping then becomes more difficult.

Beginning on April 1 this year, and with rabies—particularly in foxes—continuing to spread in the Central New York area, the trapping technique was changed from a line or "Zone of Scarcity" method to a block or saturation system. This seemed advisable, particularly in view of the fact that the spread of the disease occurred in three principal locations, namely, the Chemung-Steuben-Schuyler, the Herkimer-Fulton-Montgomery and the Delaware-Sullivan. By putting a number of trappers in each of these sections to trap in depth or remove the foxes in whole townships surrounding the infected area, it is hoped to control further spread. The State Departments of Health, Agriculture and Markets, and Conservation recommended this type of control as having the greatest possibilities. Accordingly, approval was granted for special funds totaling $75,000 for the current fiscal year to carry out the rabies trapping program, and 23 fox trappers began work in the three areas mentioned. For the three months ending in June, 1,171 foxes had been trapped in the three locations mentioned—involving 12 counties. This is an average of 97 foxes per county.

During the course of the summer and fall, some shifts have been made to extend the trapping area adjacent to those now covered, or as new cases of rabies in foxes were reported. At present there is an isolated report of a rabid fox which was found in Wayne County. Regular State trappers are working around this outbreak, and developments there will be watched closely.

One of the questions in this whole program to control the outbreak of rabies in foxes is—should more effort be expended and more trappers put on? Or, as some people advocate, should we let Nature take its course? Certainly from the standpoint of protecting human lives and farm livestock, a considerable effort is justified. It then becomes merely a question of how to effect the control.

THE long term view is something else. This being the first serious outbreak in New York known in foxes, it is logical to ask how similar ones can be prevented or the effects lessened. More control of fox populations seems to be the answer. And that means keeping a close watch on fox abundance trends. Usually the combination of trapping for fur and fun does the job, but when these normal methods fail, some type of public effort is indicated. To date evidence points to the hiring of professional trappers who will be used to spot-trap in possible trouble zones before the trouble starts.

State agencies with local co-operation are currently working on the rabies epidemic to reduce the dangers to human beings and minimize losses to agricultural interests. The general public can continue to be helpful by reporting cases of sick or strangely acting foxes to town health officers. Certainly the first step in control is an accurate knowledge of the degree and rate of spread, and this can only be known by laboratory examination of the heads of suspected animals.

On page 27 of this issue there will be found a collection of authenticated accounts which may be helpful to the public in identifying rabid foxes. Although healthy foxes sometimes behave abnormally, it will be seen from reading through these accounts that such behaviour should be viewed with suspicion —and properly reported.

The whole problem is of such importance that recently it was presented to the Joint Legislative Committee on Interstate Co-operation, so that we might enlist the aid of the bordering states of New Jersey and Pennsylvania which are also affected by the disease. It is hoped that from such co-operation additional data and possibly new methods of control may be forthcoming. But in any case, co-operation is of the utmost importance because wildlife knows no political boundaries, and control in one state and not in another adjoining it will be at best temporary and relatively ineffective.

We can hardly afford temporary or ineffective measures. The stakes are high.

—BEN O. BRADLEY,
*Supervisor of Wildlife Restoration*

# Tent in the woods

The still, early morning air; the rising smoke of a fire just begun with wood damp from last night's frost; the water calm and cold, and the reflections. And a towel stiff and icy because you forgot to bring it in last night; the buck still hanging, when for some reason you'd half suspected he'd be gone; the imperturbable woods; and the tent, a very temporary shelter for men who go into the woods and then leave, leaving everything the same

The tent faces to the south so that the sun will take off the early morning chill. As things warm up, the three backlogs of the fireplace reflect the heat into the tent, with flaps open

The camp is a hunting camp, in the deer country of our Forest Preserve. With lakes so common in this country, a canoe often makes things more pleasant for a man with a buck, headed home

Though its site will soon be reclaimed by the wilderness, the camp is solid and comfortable. The essentials are the tent itself, the stove inside and the fireplace out, and the table near the fire. A few other refinements make the camp a good place to hunt from, and nice to come back to

# *Cal Atwater*

How important is a good man in one of our upstate communities? When a good man dies in such a place, how do you measure the loss?

CAL ATWATER was a big man, and deaf. Those were the things you noticed first, because when you walked into his "office" and asked for a spruce two-by-four or a sheet of masonite, he used to project his vast midsection even farther than usual, hook one hand into his hard-pressed suspenders and cup the other behind his right ear, (which was supposed to be his good one), and say—heh?

Of course if you were a stranger and wanted something, Cal would get up and poke around the mill looking for it. But if he knew you he would tell you to look for yourself, and most of his customers were proud to do just that. The usual procedure was to locate what you wanted under this or that pile of junk, tell Cal you were taking it, then months later check your bill to see if he had forgotten as usual to include this item.

Needless to say, Cal's accounts were indescribably chaotic. A fellow would come in with some pine logs and swap them for cement, or maybe Cal would loan him a hundred or so. In either case the record of the deal, if any, went onto an odd scrap of paper and probably ended up in the office stove, along with other fruits of the semi-annual sweeping. Once I saw an income tax inspector stagger out of the mill, mopping his brow and muttering to himself.

The mill was an extraordinary affair. Physically, it was standard; it had the usual saws and planers, the usual piles of slabs and sawdust and peelings, the usual wonderful smell. But it was a rare mill because I feel almost certain there was never a bad guy in it. He might have been a bad guy outside, but when he came in to buy his lumber or whatnot, there was Cal, expanded in his office, passing the time of day with some customers that were supposed to have been home or back at work an hour ago. The customers were usually the fellows you had seen around the valley all your life and never thought much about. But after you'd seen them down at Cal's mill, everybody was friends.

The mill was right next to Cal's house, where Mrs. Atwater still lives. Next door lives Cal's sister. Painted on one of the buildings there used to be a sign that apparently included them all, announcing in enormous white letters to passersby on the road that this was "The Atwater Home." Every once in so often Atwaters from all over the country used to get together for a big reunion at The Atwater Home, and on these occasions Cal presided with considerable style. Of course these gatherings fascinated the whole valley.

THE sign is gone now, and the mill is closed. The big saw was sold to an operator from up north, and the other equipment and all the inventory that Cal might have gotten round to selling some time—paint, nails, ice boxes, mirrors, wall cabinets, bathroom fixtures, and a lot of other things that people had talked him into stocking—all that's gone too. So are the people you used to see in Cal's office. Sometimes you meet one of them in the local store, and you say hello, and that's all there is to it. And if you want a two-by-four, well if that's all you want, you get it some place else.

The reason for this is that one day last fall, suddenly Cal died. They had the funeral in The Atwater Home. So many people came from all up and down the valley that there wasn't room in the house, and most of the men stood out under the elm trees and listened to the service coming out through the open windows.

It was one of those warm, hazy October days, during the fire season, and there was a smell of smoke in the air.

—P. W. FOSBURGH

*Staghorn Sumac*

*Smooth Sumac*

*Poison Sumac*

# *Flora* . . . . . the Sumacs

THE Sunday drive to see the fall coloring has become a northeastern custom. All of us are inspired by the sight of a wooded hillside, dull green all summer, but in the fall splashed with colors that flare on even the humblest bush and vine.

Important contributors to this color riot are the sumacs, representative of a widespread family that provides mangoes, cashew nuts, pistacia nuts, tanning materials, Chinese lacquer and other products. Four—the staghorn, smooth, shining and fragrant—are usually referred to as the harmless sumacs in contrast to the poisonous members of the genus Rhus, poison ivy and poison sumac. The latter is well known to those unwary souls who have used "swamp sumac" for kindling. (The Chinese lacquer tree, which looks and acts like poison sumac, can be found in a few parks.)

Of the handsome and harmless sumacs, staghorn is largest in size and the most common. It may be recognized instantly by its hairy twigs and hairy cones of red fruits, or "bobs". It is a thicket former, with large, pinnate leaves and weak-wooded stems that are seldom more than 15 feet high or two inches thick, although we once found a small tree in northern Columbia County that was six inches in diameter, breast high, and 20 feet tall.

Staghorn is useful to wildlife. Its persistent fruits form a big part of the diet of ruffed grouse; bobwhites and pheasants resort to them when other foods are unavailable, and at least 30 other species of birds have been observed to use sumac fruits for food. It is a regular winter food for cottontails, which, when both staghorn and smooth sumac are available, selectively eat staghorn stems. And man, resorting to the wild at this time of the year, has used the dried and powdered leaves as a source of tanning material and has learned that a pleasant, acid drink can be made by steeping the fruits.

Smooth sumac can be distinguished by its lack of bristly hairs on twigs and fruits. A smaller plant, never becoming a tree, with same thicket-forming habit and distribution as staghorn, its colors are more brilliant, but its record of use by birds and animals is less impressive.

Shining sumac is common only on the Coastal Plain, with local distribution on such sandy plains as those near Albany and east of Oneida Lake. It is distinguished by its small size, glossy and shining foliage, drooping fruit clusters and winged margins of the leaf stem. It too is used by numerous birds.

Fragrant sumac is an uncommon spreading shrub of rocky woods and dry gorge banks, its leaflets in three's often being confused with poison ivy. But it can be distinguished from its unpopular relative by velvety leaves that are fragrant when crushed, red fruits, and the presence of small catkins in winter. It grows from two to four feet high and has been used as an ornamental because of its form and size.

Use of staghorn, smooth and shining sumac by wildlife, the ability of all three to grow and spread by runners in dry, stony or sandy situations—and their beauty—have led to their planting and development for game on our public hunting areas. Staghorn is currently favored because of its greater use by wildlife and its widespread distribution, which usually precludes the need for planting and reduces the problem to maintaining and encouraging already existing thickets.

POISON sumac is limited in distribution to swampy and boggy situations. It is large, with pinnate leaves clustered at ends of the branches, and although it looks like smooth sumac it has drooping, yellowish-white fruits like those of poison ivy. Leaf stems are usually reddish and smooth. The poisonous principle is a non-volatile oil, which remains on shoes or trousers long after they've rubbed against the plant and which can be carried far on smoke particles. Many a farmer's wife has quite literally suffered over a hot, smokey stove until she discovered that the "swamp sumac" she was using for kindling was really poison sumac.

Remedies for sumac poisoning and ivy poisoning, which are similar, are innumerable but nearly all worthless. Washing with strong laundry soap right after contact might remove the oil before it can penetrate the skin, but after irritation has set in, scrubbing is folly.

It is small comfort to know that rabbits, horses and cows eat poison ivy or poison sumac without slightest harm. As for you, if you doubt your susceptibility, learn what the two poisonous species of Rhus look like, winter and summer. Then stay away from them.

—RALPH H. SMITH

# PIKE-PERCH

*Fauna*

FOR fall and winter fishing in New York, the pike-perch (see back cover) is a reliable performer. Fall fishermen extract walleyes by the ton from the fertile waters of Oneida Lake, and come winter the ice fishermen move out onto this lake or perhaps onto Lake Champlain with their tip-ups. Yet these are only two of the favorite seasonal spots, for the walleye is widely distributed throughout the State.

The most interesting aspect of the story of the pike-perch in New York has to do with culture and propagation, but before going into that we had better make it clear just what this species is. It belongs to the family of perches of which the common yellow perch is the most outstanding member. It is also called the walleyed pike and sometimes the yellow pike-perch, to distinguish it from the blue pike-perch of the Great Lakes. Regardless of name, it is highly esteemed by epicures as a table fish, and by anglers as a sporting proposition.

The popularity of the pike-perch poses several problems: Walleyes are voracious competitors for food, and if stocked in unsuitable waters are detrimental to other types of fishing. Furthermore, the best fishing for walleyes is at night—not as popular as daytime fishing. And the walleye's popularity has resulted in many headaches for this Department in trying to make supply meet demand.

The pike-perch is a spring spawning fish, the month depending on spring temperatures. This Department first undertook pike-perch culture in 1893 at Constantia on Oneida Lake. Scriba Creek, entering the lake at this point, has been a favorite spawning stream since the species became established in the lake in the middle of the Nineteenth Century, but in spite of this early egg collections were meager. Then a tent served as headquarters. Now, egg collections have been expanded as the fish population has increased, and today a modern jar hatchery, with all facilities, has replaced the tent.

It is possible to take from Oneida Lake 600,000,000 eggs (the record is 613,000,000)—this source now serving the entire State for pike-perch stocking without diminishing Oneida herself as a pike-perch fishery. Eggs are hatched at the Crown Point, Caledonia and Ogdensburg hatcheries to facilitate distribution of the fry.

Walleyes congregate in large numbers at spawning time on gravel shoals and bars in a lake, but prefer gravel bottoms in a stream with a good flow of water. Thus, wet springs make it possible to capture sufficient breeders in Scriba Creek with hand scap nets; in dry seasons it is necessary to set trap nets in the lake.

Collected fish are held in holding tanks, the males and females generally separated, until they are ripe. One man strips the eggs from the female while another strips the milt from the males into a pan. The number of eggs obtained depends on the size of the fish. As the average Oneida Lake fish is about one pound and rather young, it is usually necessary to handle 35 to 40 thousand pike-perch, males and females, to collect 600,000,000 eggs.

Pulverized clay, muck and corn starch have been used in washing eggs as a means of preventing their clumping together, but in recent years their adhesiveness has been overcome by constantly stirring the eggs with feathers while they are water-hardening in wooden bowls. Water is removed and added until the eggs are completely separated; then they are transferred to hatching jars arranged in a battery.

Each jar has a capacity of three or four quarts of eggs. A light metal tube carries the flow of water to the oval bottom of the jar, the flow being regulated so that the eggs constantly circulate but will not reach the overflow or lip of the jar. Eggs start to hatch in from 12 to 18 days, depending on water temperatures, and once the hatching is started it is generally hastened by shutting off the water for an hour or by excluding light with a cloth.

The sac fry absorb the small yoke sac in from three to five days, and before this is accomplished they must be planted in the waters to which they are allocated. If planted in lakes, they should be distributed in water 20 to 30 feet deep at the outer edge of weed beds; if in streams, along the margins in protected areas. The fry should always be well scattered to give the best results.

The success of the planting depends a good deal on the food available. The yellow pike-perch is essentially a piscivorous fish, commonly found with minnows, small sunfish and small game fish (including lesser walleyes) in its stomach. It has been estimated that a three-year-old walleye will devour between 1,800 and 3,000 fish yearly. This enormous food requirement results in a drastic thinning of the fish population where pike-perch are present. In many cases, his presence results in the conversion of undesirable fish flesh into a highly prized food, and often the thinning action reduces the competition for food to such an extent that the remaining fish attain a desirable size.

WALLEYES are powerful swimmers, preferring clear waters and gravel bottoms in most instances. Although they congregate in large numbers during the spawning season, making them easy meat for predators, they range widely the remainder of the year. Fish tagged and liberated at the mouth of Scriba Creek have been taken in all sections of Oneida Lake, and one female tagged at Whitehall Bay in Lake Champlain was caught 30 days later at the mouth of the Saranac River, 100 miles up the lake.

So walleyes "get around." They have already gotten around a good part of the State, but the fact is there would undoubtedly be a lot more of them in New York if it weren't for their one great vice—an almost insatiable appetite for their own children.

—O. R. KINGSBURY,
*Supervisor of Fish Distribution*

# LONG LAKE

AN early preacher-writer, Dr. John Todd, in 1841 noted that the people of Long Lake were neither religious nor ambitious. Their farms were badly neglected, he said, the people preferring to spend their time hunting and fishing without regard to day or season.

Possibly the good doctor was right. But in defense of the people of Long Lake let it be said that they were subjected to extraordinary temptations, because Long Lake was then, and is now, one of the best places in the State to hunt and fish.

Things change slowly there. Among the settlers who had become established when Dr. Todd took them to task were the Kellers, Kelloggs, Parkers, Austins, Robinsons, Mix's, Sargeants and Burlingames. Descendants of all but the last two are still in the community. Leslie Palmer, well known guide and son of the Si Palmer who with Mitchell Sabattis was a progenitor of the guide-boat, is still living there. And there are still Plumley's in Long Lake, descendants of Joel Plumley who in 1830 established himself as the first white settler in the town.

Cartographers place Long Lake in the heart of the Adirondack Mountains; the Biological Survey includes it in the Raquette watershed; the U.S. Geological Survey maps cover it with the Long Lake and Santanoni quadrangles. Both the town and the lake of the same name are in Hamilton County. A widened, somewhat deepened stretch of the Raquette River, 1,630 feet above sea level, the lake is one of the longest in northern New York, extending from Deerland at the southern extremity 14 miles northeast into the very heart of the wilderness. All together, the waters cover 6.14 square miles or 3,929 acres.

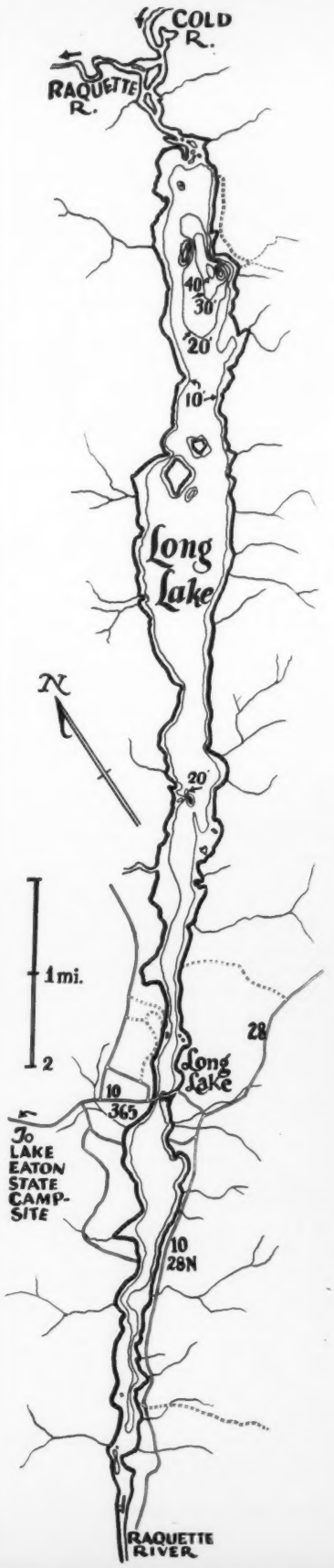
An early survey put all but the extreme upper end of the lake in the Totten and Crossfield Purchase, Townships 21 and 22. By 1786 both townships had come into the hands of Theophilus Anthony, probably the first New Yorker to spend his summers in the area and still commemorated by three small ponds named for him west of the lake and back of Buck Mountain.

By 1844 there were 18 families and about 100 people in the village of Long Lake, making it the largest town on any lake in the section. Its rapid growth was due largely to glowing accounts circulated by land speculators, who advertised the area as wonderful farm land with a solid understratum of iron ore. Land sold for from one to three dollars an acre. Highways and railroads were promised; the highways came in time (routes 10 and 28 now join there), but the nearest rail stations are at Tupper Lake and North Creek.

The village has grown up on both sides of a narrows in the lake. The two settlements were first connected by a cable-operated ferry, replaced in 1870 by a floating bridge. Later a suspension bridge was built which was then the longest single span in the State, but this in turn was replaced a few years ago by the present fill and short bridge. The settlements so connected make no apologies for their past; besides Dr. Todd's poor opinion of the early inhabitants, there are the descriptive names applied to the two segments of the town by a peddler who had the misfortune to deal with the natives. The part now the main village he called "Gougeville", while that on the west bank he termed "Kickerville". Walker Road is still proudly called "Kickerville Road" by the townspeople.

THE first hotel in the vicinity was the Sagamore, built in 1885, burned in 1889, rebuilt immediately. It was the largest and most modern in its day, and many an expedition into the wilderness began and ended there. A smaller, but still well-known hostel is the Long Lake Hotel, which in the early days furnished guides and stocked all kinds of supplies and provisions for the surrounding territory.

An important link in the Fulton Chain, Long Lake has a special attraction for canoeists, many of whom make the famous trip through the Raquette River to Tupper or Saranac Lake. All along this route are lean-tos and camp grounds operated by this Department and used each year by vacationists from all over the world.



Some prefer the trip up Cold River from the outlet at the north end of the lake. This trip brings one into a region known only by a few hardy hunters and trappers, a region little changed since its shady trails were Indian highways and its granite cliffs looked down on the British troops pushing a road from Champlain to the Great Lakes. Today the mail boat in summer gives visitors a view of the outer fringe of this wilderness and the big estates that dot the shores. (Whitney Park, comprising 96,000 acres with about 65,000 acres in forest lands, is in the Town of Long Lake.) This wilderness, forest clad, reaches down to the very shores of the lake, and in the background are the State's mountain giants—Marcy, Whiteface, and the Seward Range.

Fishermen find that Long Lake offers a great variety of sport. Natives seem to feel that fishing for great northern pike is the principal attraction, and they spend a good deal of time catching them around the marsh near the middle of the lake. Visitors are inclined to favor the smallmouth bass which congregate near the inlet and outlet. Perch and bullheads are also taken in good quantities, and in addition there are the common and red-bellied sunfish and an occasional trout, whitefish, walleye, or landlocked salmon.

Time was when Long Lake was one of the best in the Adirondacks for native trout. That was before the introduction of pike, perch and smallmouths. But the establishment of these species was not alone responsible for the decline of the trout; lumbering and milling operations at the head of the lake, with the attendant practice of dumping waste materials into the water, also played a part.

NOR do lake trout thrive here. Because the lake is a shallow one (the deepest spot found by the Biological Survey was 45 feet), the oxygen content is too low for this species. For reasons best known to themselves, walleyes will not stick around either; they were stocked at one time, but without stopping to ask the way they departed for Tupper Lake.

When it comes to hunting—the other vice with which Dr. Todd said the townspeople were afflicted—Long Lake is still a mecca for sportsmen. More bear were killed in Hamilton County last fall than in any other in the State, and Hamilton is always right up at the top in reported deer take. The small game hunter will find plenty of grouse and rabbits and perhaps an occasional duck, although the lake is not on the main waterfowl flyway. Woodcock, although present in considerable numbers early in the fall, are usually driven south early by a good frost.

Today the Long Lake Improvement Club, a combination chamber of commerce and fish and game club, promulgates the advantages of the lake for vacationers. It boasts of its sandy beaches, tennis courts, bridle paths, golfing and other diversions calculated to revolve Dr. Todd in his grave. Also of woodland trails and mountains—Mt. Sabattis, overlooking the village and named after the guide; Owlshead to the southwest, 2,780 feet high with a fire tower on top; Kempshall, 3,366 feet, with a fire tower from which you can survey the High Peak Country and also the Green Mountains in Vermont. What with all this altitude and pure air, the Improvement Club claims you don't have to be a sportsman to enjoy Long Lake; you can be just any hay fever sneezer.

What the Club does not mention is what it has not done; it has not spoiled Long Lake. The town's homes and camps and businesses do not stand shoulder to shoulder, and the hand of commercialism rests lightly there. That's one reason why permanent residents believe it's the most beautiful and unspoiled spot in the Adirondacks.

A great many persons other than the permanent residents will concede this.

—ROLAND B. MILLER

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The Conservationist is very grateful to Virginia H. Farr, wife of Forest Ranger Charles Farr of Long Lake, for help with this article.

# AN ENLARGED PROGRAM for Fish and Game Conservation

## *Part 3 . . . Paying the Bill*

THE first two articles of this series were more interesting to sportsmen, I suspect, than this final one will be. The first two dealt with how more fishing and hunting will be provided; this one is concerned with paying the bill.

Nevertheless, the problem of fish and game finance demands greater attention, because several sources of income are involved, none of which is static, and because expenses vary with economic conditions and must be geared to changes in fish and wildlife conditions and problems. Yet income and expenses must be kept in reasonable balance simply because this work is largely on a "pay as you go" basis.

**Where Does The Money Come From?**

Most State services are financed from what was known for years as the "General Fund"—now more accurately named the "State Purposes Fund". It is derived from general State taxation. Fish and game conservation, on the other hand, is financed from four separate funds as follows:

1. *The Conservation Fund*—derived from hunting, trapping and fishing licenses and fines and penalties collected from fish and game violators. It is used solely for fish and game work.

2. *The State Purposes Fund*—which now pays entirely for administration of the Department, conservation education, legal services, the shellfish sanitation unit, and other miscellaneous expenses formerly borne by the Conservation Fund. (We're proud to have had a hand in bringing this about.)

3. *The Postwar Reconstruction Fund*—(explained in previous issues) which at present pays for capital expenses in improving and enlarging our facilities, including hatcheries, farms, stream purchase and improvement.

4. *The Pittman-Robertson Fund*—(from Federal excise taxes on arms and ammunition) which pays for most of the game research and management work and for purchase of game lands.

For continuing year-by-year work of the Division of Fish and Game, the Conservation Fund and the Pittman-Robertson Fund are obviously the most important. The availability of the Postwar Reconstruction Fund in the amount of $2,175,000 was nevertheless a life-saver because much repair and maintenance work deferred during the war, together with improvement and expansion of existing facilities and construction of some new ones, could not have been financed out of the Conservation Fund. The State Purposes Fund, while not directly available for regular work of the Division, has been very helpful because, with the consent of the Governor, Budget Director and the Legislature, we have transferred to the State Purposes Fund a number of expenses formerly saddled on the Conservation Fund (amounting to some $180,000). At the same time, the cost of our rapidly expanding conservation education work has been taken up wholly by the State Purposes Fund.

Coming back to the two important funds, we find that Conservation Fund appropriations (exclusive of new construction) for the last pre-war year (1941-42) amounted to $1,588,015. It is estimated that with the additional income from the higher license fees which become effective January 1, 1949 (around $900,000), plus the increased sale of licenses, revenue coming into the Conservation Fund to finance the enlarged program will amount to around $3,000,000.

With regard to the Pittman-Robertson Fund, in 1941-42 New York was allocated $120,204. It is estimated that if Congress continues (as it did in '47 and '48) to make each year's revenue from excise taxes on arms and ammunition available to the states, income from this source will amount to around $450,000. Thus, our total expectancy for financing the enlarged program comes to approximately $3,450,000. Obviously, if another national emergency occurs, which would affect the sale of licenses, or if Congress should elect to withhold some of the excise tax monies, the picture would change.

**Where Does The Money Go?**

At first glance it would appear from these figures that compared to pre-war days we now have money for vast expansion work. I wish this were so. But—as everyone knows—the catch is *inflation*. It is estimated that it accounts for at least half of our increased total costs. The balance is being expended for enlargement of our work, described in the two previous articles.

In an attempt to sum up the financial aspect of our enlarged program, and to permit quick comparison with pre-war activities, we have prepared two conventional charts shown here. You can make your own analysis, but the following seem to me to be the significant differences which reveal the direction our program is taking:

1. The costs for legal services, accounting services (finance), the shellfish sanitation unit in the Marine District, and conservation education—all formerly borne by the Conservation Fund—are no longer paid out of fish and game funds. They are financed instead by the State Purposes Fund. This is most proper because these operations work in behalf of the entire public rather than for a special activity.

At the same time, the cost of the central office of the Division of Fish and Game, compensation insurance and retirement now very properly represent a smaller proportion of the whole as field work has been expanded. Thus, in the comparatively small items grouped under Miscellaneous, there has been a shrinkage of 11 per cent in the proportionate cost as between the old and the new program. A healthy sign.

2. Law Enforcement: Although, as indicated in the previous issue, the amount of money spent for law enforcement is greatly increased (we now have 20 more protectors and more adequate expense allowances for all members of

the force), it, too, represents a smaller proportion of the expanded program than in the pre-war period.

3. Game: The new program shows largest development in this field, with game work of various kinds now representing 41 per cent of the total, or 15 per cent more than in the old program. This has been made possible by the larger amounts coming from P. R. funds which can be spent only for game work. The proportion spent for game management in the field has been doubled. A seven per cent increase also has occurred in propagation, and it is important to note here that this increase was effected primarily because it was necessary to raise temporarily the production of our game farms—in an effort to assist in the recovery of pheasants following their unprecedented shortage. By general agreement, however, and at the request of the State Conservation Council, production has been stopped at the level achieved last year, and it is understood that as rapidly as our pheasant population recovers, the amount spent for propagation will be reduced and additional amounts spent for development of food and cover in the field.

By the same token, although our new program already calls for much larger expenditures for management, these activities should be stepped up still further as propagation costs lower, and as experience points the way. In connection with management, it is important to note that land acquisition and development have jumped from two to six per cent. The charge for district game management forces has risen from one to three per cent, and an entirely new effort to bring food and cover to farmlands takes up six.

Another new item is the system of State trappers, which takes two per cent. In this connection, it should be noted that out of the State Purposes Fund, $75,000 is currently appropriated for fox trappers working on rabies control. With these two trapping programs, the State is making an unprecedented effort in the field of wildlife control, especially fox control.

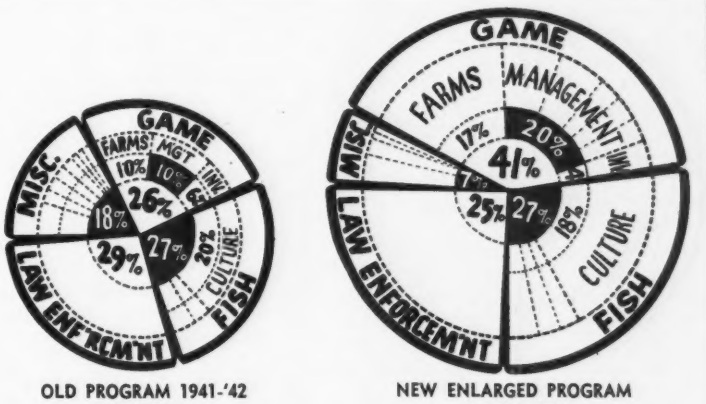
IT will be noted that wildlife investigations, formerly representing six per cent of the total, now involve but four per cent. Actually, these efforts and the amount of money spent in this important field work have been increased, but proportionately they are smaller in the new program. This is only logical because the findings of research should be translated into greater efforts in the field.

4. Fish: The fish conservation part of the program amounts to 27 per cent of the total—which happens to be exactly the same as it was before. Because there is no fisheries counterpart to P. R., the expansion has not been possible to the same degree as in game conservation. Actually, however, much more money is being spent and many more fish are being produced, but there has not been as great an increase in fish production as we would have liked because of the limited capacity of existing hatcheries. This is being corrected by postwar projects for expansion of existing hatcheries and the construction of two new ones. As soon as they are completed, further additional production will be possible. It is hoped that, because of the increased efficiency of the new units, the increase in costs will not be too great, and it is also hoped that the exorbitant prices which we now have to pay for fish food will lower by the time construction is completed so that the need for additional money will be limited. It will be noted that the cost of fisheries investigations and management has increased from three to four per cent as our field work has been expanded, and that to old activities there has been added the new and important one of fish salvage, which now takes up two per cent of the total. The cost of stream purchase and development—$105,000—while greater, is a continuing item and remains in about the same proportion.

There is reason to hope that Congressional action may bring about a fisheries P. R. If and when this comes, it should be put into additional field management work to improve fishing.

I would like to make sure that everyone understands that the program on which we are working is by no means final or exact. If our experience in fish and wildlife conservation has taught us one thing, it is that we must adapt ourselves to constantly changing conditions, especially if we are to take advantage of new and important developments. At the same time, it should be understood that the figures given here are only round number estimates. Actually, as we go to press, we are in the midst of working on specific budget requirements for 1949-50.

It should be further pointed out that changes in price levels, or in income, or in both, obviously would alter the program. By the same token, there is no way of knowing precisely what the Budget Director or the Legislature may do to Department requests.



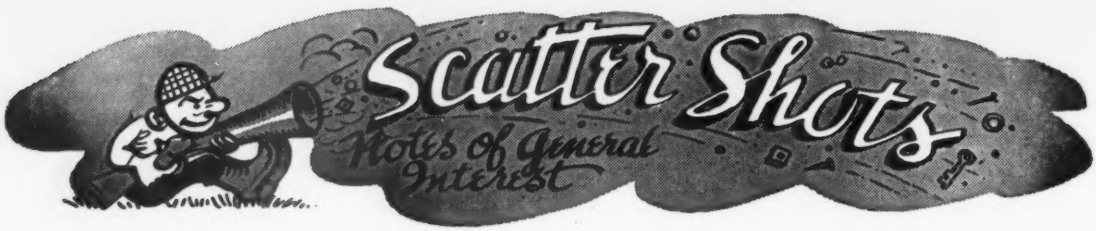

**OLD PROGRAM 1941-'42**
**$1,708,219**
**BREAKDOWN OF SMALL SEGMENTS**
MISC.—Cent. Off. 5%; Comp. & ret. 3%; Cons. education 3%; Marine fisheries 2%; Finance 2%; Shellfish sanitation unit 1%; Legal bureau 1%; Inland fish. & sp'l lic. 1%.
GAME MGT.—Land acq. & develop. 2%; Dist. game mgrs. 1%; Misc. mgt. projects 7%.
FISH—Inv. & mgt. 3%; Purch. & develop 4%.

**NEW ENLARGED PROGRAM**
**$3,450,000**
**BREAKDOWN OF SMALL SEGMENTS**
MISC.—Central Office 3%; Compensation & retirement 2%; Inland fisheries 1%; Marine fisheries 1%.
GAME MGT.—Land acq. & develop. 6%; Dist. game managers 3%; Dev. food & cover 6%; State trappers 2%; Misc. mgt. projects 3%.
FISH—Investigations & mgt. 4%; stream purchase & develop. 3%; Fish salvage 2%.

However, I feel certain that the general proportions of the program will be proven by the test of time to be a vast improvement over the pre-war program and—while they may be modified in some respects—can be carried out.

The important thing is that New York is launched on the enlarged program of fish and game conservation so desperately needed if we are to keep up with greatly increased hunting and fishing pressure. As I remarked in opening this series, the new program is the product of many minds and the judgment of the many people from all parts of the State with whom we have been working. I take this occasion to thank everyone who is helping us in this effort.

—PERRY B. DURYEA




**OUT, DAMNED SPOT**—New York State Forest Rangers in District 9, among other odd jobs this summer, had the task of tracking down a mountain climber from Connecticut who was touring the higher Adirondack peaks (there are 46 over 4,000 feet in elevation) with a pot of orange paint. On each peak he painted a circle and the figures 46/23, indicating he had climbed all 46 in 23 days.

In case you didn't know it there is an organization of select mountain climbers, know as the "46 ers", with some 50 members who have toiled up these peaks, taking from one to three years for the stunt. There are also quite a few aspiring "46 ers". It was one of this latter group who landed on remote Santanoni one day in August and discovered the "paint desecration". He immediately hotfooted it down the mountain and up thru Indian Pass to Adirondack Loj, where he told his tale to a group of "46 ers" playing auction bridge on the porch. The wires hummed, District Ranger Bill Petty foamed at the mouth, the Rangers went into action, the "painter" was cornered and paid a fine of $25.00 for "defacing State property."

All good "46 ers" now carry paint remover in their packs.

**BIG BAIT BEST**—The staff at the Bemus Point State Muskalonge Hatchery at last have found justification for that old crack about using the three-pound pickerel for bait.

One day recently one of the hatchery's trap nets produced, as usual, a number of big muskies, but among them was a comparatively small one measuring 38 inches and weighing 14 pounds. Tommy Thompson, head of the netting crews, gave it more than a passing glance however, because he caught it in the act of disgorging the largest fish in the hatchery's annals to be taken from musky innards. The victim was another musky 20 inches long and weighing nearly 3 pounds. The victor, still alive and ready to be tossed back into the water, is shown below with its partially digested meal.

**LOGGING**—The Loggers' Equipment Show, held near Cooperstown on September 8th and 9th, was a spectacular success. This demonstration of the newest ideas in mechanized logging was sponsored by the U. S. Forest Service and the New York Section, Society of American Foresters.

More than 30 manufacturers from all over the country had machines and tools on exhibition. The show covered the whole logging operation—trees were felled and bucked, skidded out, loaded on trucks, delivered to sawmills set up on the grounds and there sawed into lumber. Attendance on the 8th was estimated at 4,000. A special showing was held on the 9th for some 150 foresters, together with 350 other folks who missed out on the first day.

**SHORT AND SOUR**—As things turned out, it was both ends against the middle, in this wise:

Two Game Protectors set up a road block in a notoriously bad section during the hunting season last fall. They were vastly surprised that none of the cars they stopped had any illegal game, but presently a lady driver put them wise; they wouldn't catch anybody, she said, until they took down the signs. Sure enough, around the bend in the road, in both directions, were signs reading: "Watch your step—Game Protectors ahead."

**CONSCIENCE FUND**—A few weeks ago this Department received a 30-dollar money order, cashable but with signature completely illegible, and along with it came the following note in explanation: "Due to carelessness and forgetfulness. For Conscience Fund, State Conservation Department."

No doubt someone who had escaped the long arm of the Conservation Law is now sleeping better nights. The money goes into the Conservation Fund, for fish and game work.

**FIREWARDEN**—Forest Ranger Bob Roche at Corning, in District 4, has a very special firewarden. He is "Chief" George Grayhorse, a full-blooded Kiowa.

Grayhorse, 60, spent his childhood in Indian territory at what is now Purcell, Oklahoma. He came East with wild west shows and carnivals, ascended in free balloons and wing-walked early airplanes at county fairs. His daredevil days were cut short when his balloon came down in a tree and he broke both legs. He then switched to other carnival connections, but a few years ago settled down in Corning, where he ran a curio shop until he found that it interfered too much with his principal business of gathering herbs and roots.

The county fair pull is still strong and each fall he packs up his medicines and visits all within reach. He makes bows for amateur archers in off seasons, spurning knife or saw but shaping the bows with a piece of broken glass. During the war he was active in civilian defense and organized and directed a local branch of Volunteer Mountain Scouts, invaluable in many ways, particularly in fighting forest fires.

Now that he's a firewarden, no fire is too distant nor the time too inconvenient for Grayhorse to be on the job at a moment's notice. He has an amazing ability to recruit fire-fighting crews, even in the dead of night, and Ranger Roche considers him one of his most valuable assistants.

**CRAZY FOXES**—The following accounts, taken from a monthly release published by the Health Department, lend point to the article on rabies appearing on page 14:

In Seneca County, a man found a grey fox in his pig pen, chasing the pigs and biting them. He attempted to drive off the fox but instead was attacked by it. Although he was able to kill the fox without being bitten, the animal ripped a hole in his trousers.

In Schuyler County, a trapper noticed a fresh fox track in the snow along a brook. Being fox-wise, instead of following the track he took a course which would intercept the animal at a likely crossing. The fox did not cross. The trapper thereupon picked up the tracks again and followed them until he found the fox lying dead under a bridge. All around were signs of a violent struggle; trees and even the steel girders of the bridge had been gnawed, and the fox's mouth was coated with blood-streaked saliva.

In Tompkins County, a women heard her dog whimpering outside her house. Without turning on the light she opened the door to let him in, and an animal which she thought was the family cat entered at the same time. It was a fox, and a violent fight ensued which was only ended when the woman's son killed the fox with a ski pole.

In Seneca County, a young woman went to an outbuilding after dark one night and left the door open. A grey fox entered and bit her hand, hanging on while she dragged it, calling for help, about 50 feet back to the house. The woman's father-in-law finally pried the jaws open and killed the fox.

These are only a few of the accounts compiled in recent months. We publish them here not as part of a "scare" program nor to promote a senseless, wholesale destruction of foxes, but for two reasons: (1) to help people identify rabid foxes, and (2) to point up the need for a sensible, organized program to control them when and where such control is necessary.

**FOR JUNIOR**—The Department through its District Game Managers is co-operating this fall with the State Farm Bureau Federation and county 4-H club agents in a 4-H club fox trapping program.

This is a result of a summer meeting of the wildlife committees of the Federation and State Conservation Council. At this meeting a co-operative plan to benefit sportsmen, farmers and poultrymen was worked out, calling for junior fox trapping contests to be held in counties where foxes are a problem.

County club agents were encouraged to meet with their respective District Game Managers and plan a schedule of meetings, field demonstrations, an instruction program, and a list of prizes.

Many counties in the State have made preliminary arrangements and opened their contests October 15 for two months. The program will teach 4-H members better conservation and how to control foxes on their own farms, and is designed to promote better farmer-sportsman relationship.

**BE IT RESOLVED**—"That the Wyoming County Board of Supervisors co-operate in a State-wide program for the control of fox damage and hereby appropriate the sum of $500.00, to be paid on submission of County vouchers properly verified, of which amount the sum of $6.00 for each participant is to be allowed to cover the cost of trapping equipment and miscellaneous expenditures needed in promoting the program for each contestant. . . .

"Carried: Ayes, 14; Noes, 1."

**NEVER SAY DIE**—It was one of those bright days when the Lake George Chamber of Commerce rubbed its hands together and gleefully recorded weather data in the pamphlet for city distribution. Mr. Robert Vickers, District Game Protector, fondly dropped a practiced cast three-quarters of an inch from a restricted area, retrieved the plug, let it float at the boat's edge while he reached for a tobacco pouch. Suddenly pipe, tobacco and Mr. Vickers were doused with a well-aimed tailful of water as a three-pound two-ounce bass hit the bobbing lure.

This may have puzzled an onlooker, but the District Game Protector was unconcerned.

"Well," mused Mr. Vickers to his guest, as he calmly touched a fizzing match to the wet tobacco and surveyed the spit-out plug dancing nearby, "There's one that shouldn't get away—not with that stringer chain fastening him to the boat." (He had caught the bass a couple of hours earlier, and it had been on a stringer over the side ever since.)

**HOT DOG!**—Trout can be fed frankfurters in a pinch. Charlie Mykel, foreman of the Lake George Hatchery, discovered this when his contractor fell down on fish food delivery during August's heat wave. All that the packers could supply was a quantity of over-ripe hot dogs, but Mykel took them, ground them up and cast them on the waters.

"Honest," he says, "It was a picnic. The fish ate like a bunch of Sunday tourists."

# OUT of the PAST

## Evolution of our deer laws

Although large-scale conservation planning in New York bristles with newness, its foundations have withstood the corroding effects of time. Several of our more thoughtful ancestors retired for a meditative pipeful to the evening cool of the porch and there envisioned, in the curling smoke, a less abundant future. They were particularly concerned about deer. That was natural, because the whitetail was then as it is now—our most important game animal.

Some of the old milestones of deer conservation, like the Chippendale chair, still represent the most attractive solution to a weighty problem. Too, they show us one era in the light of another. This is important: our citizens of the Twenty-first Century may look back with pride at the endowment-fund conservation of their forbears.

1705 A law imposed a fine of 20 shillings, or imprisonment for 20 days without bail, for killing deer at any other time than between August 1 and January 1.

1886 The first bag limit (three deer per person per season) enacted; "crusting" in yards prohibited.

1895 Open season shortened to three months. (August 15-November 15).

1896 Hounding of deer forbidden.

1897 Jacking, and killing deer in the water forbidden.

1908 Open season limited to Adirondacks, and to Dutchess and portions of Sullivan and Orange counties. Licenses first required of hunters.

1912 Passage of the "buck law".

1920 Open season shortened to one month.

1931 Open season declared in Schoharie County, beginning trend of open seasons to counties in southern and western sections of the State.

1948 Deer legal game in all counties except Montgomery and those on Long Island and in Greater New York City.

# For your Information

**ON THE RECORD**–The following passages are taken from Governor Dewey's speech at Denver, September 21. Conservationists, regardless of their politics, can hardly help but subscribe wholeheartedly:

"We have the same kind of commanding opportunity and obligation to conserve our timber, our fish and wildlife. The forests, the woodlots, the fertile valleys should abound with birds and wild animals. Our streams should abound with fish. With the destruction of forests, much of this wildlife has already disappeared. Millions of people in our country who fish and hunt for food and pleasure and exercise have felt the result. . . .

"Today the land where the Garden of Eden is believed to have flourished is a desert for lack of water. The ancient civilization of Babylon, with its millions of people, is now a dead thing. It is vanished off the face of the earth. The sands blow across the desert where it once stood. This tragedy has happened repeatedly throughout the centuries. This must never happen to America.

"I propose that we develop a national policy which will really save our forests. Through Federal, state and local co-operation we can plan a program capable of maintaining a consistent reserve of timber resources. . . . The people in the areas whose lives are so deeply affected must have a full share in the planning, the construction and in the operation of these projects."

Judging by what has been done along these lines in his own state with the Forest Practice Act, (mentioned with pride by the Governor in the same speech), there is reason to believe that the same sort of thing might be done on a national scale.

**FEEDING STATIONS**–Dear Editor: Your reply to Mr. Lawrence about bird feeding stations might be amplified a little for the benefit of other readers and for the use of schools.

As you say, suet and sunflower seeds are good, but the addition of fine millet (Golden or Hungarian) will attract the ground feeding birds and the ones who cannot crack the large sunflower seeds (the latter must be ground up for the smaller sparrows and finches). Peanut butter, though expensive now, is eagerly taken by everything from wild birds and animals to our Pekinese and my husband. A good way to serve it to the birds is to plaster it into pine cones and suspend them by wires from a wire strung up between buildings and trees in the open, to foil squirrels who will get everything if they are not curbed. We put cut-up suet and whole sunflower seeds and peanut butter in a covered feeder suspended more than six feet above the ground and swung on a strong wire. A squirrel can do a tight wire act at will but a disk of metal (a large pan lid will do) usually stops him before he reaches the feeder. He can be fed at a distance on whole corn, oats and bread.

The ground birds must have cover within a few feet of their food, and brush heaps are ideal for them. (I make a good one from discarded Christmas trees). Their grain should be protected by some kind of roof in snowy weather too (we use an old trailer).

## SEEING IS BELIEVING,
### *But Do You See What You Believe?*

THE deepening shadows in the big woods, the first indication of twilight as the sun began to lower over Cat Mountain, found Ed Williams at the end of a two hour watch on his favorite deer runway. After years of hunting experience he knew that this last half-hour of the day was the best of all as deer begin to move around after "laying up" during midday. In the thick stillness every little sound seemed magnified and after watching so long each little flutter of a leaf stood out sharply. A red squirrel scampered across the ground and gave him quite a start before he finally located it.

Suddenly a new noise far off to the right on a little ridge caught his attention and as he saw a second movement he got that touch of "buck fever" which affects even the oldtimer. He kept his eyes focused with intense interest on the spot and gradually began to fill in the sketchy outline of a deer. A stray ray of sunshine glanced off the tine of an antler, giving exactly the correct luster. Except for a patch of brown, the body was concealed, but he had become accustomed to the deceptive tactics of a deer concealing itself even in a small amount of cover. A flicker told him about where the tail should be and there seemed to be a slight movement of one leg. The longer he looked the more certain he became that he was looking at a buck deer. Sighting his rifle at the proper point was almost automatic because he knew about where the forequarter should be. Slowly he pressed the trigger, his gun roared—and he stood transfixed with horror as he saw a man topple from an old brown stump and sprawl in the buck brush.

From that moment on it was one long nightmare. It was his friend, Paul Abbott. The nightmare was a procession of State Troopers, Game Protectors, the doctor, coroner, Paul's grief-stricken family, the undertaker, the accusing, questioning looks of his friends, the searing stabs of his own conscience.

His only testimony—"I thought I saw a deer."

This all too frequent explanation of a woods tragedy represents something which has escaped searching public notice. Safety campaigns are usually based on the handling of firearms because many accidents come from careless gun handling. But the mistaken-identity type of accident is far too common and often involves the most experienced type of hunter. There is no doubt that Ed Williams thought he saw a deer, but remember he was *trying* to see a deer. He knew exactly what it should look like and in the back of his mind was a picture built up from actually seeing many deer over many hunting seasons. What he really created for himself was an optical illusion. This writer is not an expert on anatomy, but everyone knows that the eye is not a simple photographic device. Everything that comes to it is given meaning and significance by its close connection with the brain.

To avoid this type of tragedy means that every hunter must exercise the most rigid self-discipline. We must ask ourselves over and over again "Do I see a deer, or do I *think* I see a deer." A few chance snap shots may be lost thereby, a few big bucks may get away, but if it results in saving somebody's life or in saving yourself from a lifetime of self-recrimination and unhappiness, what does it matter?

Jays will eat chunks of stale bread and we also tie corn on the cob to bean poles for them. Window feeders, though fun, must be squirrel proof (Audubon Society will advise on this). Stale bread with fat melted and poured over it is good in cold weather too.

Song birds will respond just like game birds to cover and protection from cats and sometimes dogs. Evergreens in clumps and uncut fencerows and field corners will make them safe and happy. Feeding in bare open places is useless and dangerous. Pokeweed, bittersweet, dogwood (all kinds), viburnums, privit (European), poison ivy, multiflora rose, greenbrier, and best of all bayberry are favored foods. And red cedar, of course, for cover and food.

Very *important:* Do not start feeding the birds unless you will keep it up every day without fail right through April and into early May. Early spring is a crucial time. And a few days skipped in the winter, once more birds have been attracted than the natural food can support, can mean starvation to your guests. It's a responsibility as well as a pleasure to run a feeding station.

—Adele Erisman, *Mystic, Conn.*

## FIRST AID *for gunshot wounds*

**by Norman Kirk, Surgeon General, U. S. Army (retired)**

ALTHOUGH hunting is one of the safest of all sports pursued in New York, it could be a good deal safer. Last year roughly one hundred persons were killed or seriously injured in hunting accidents in this State.

All but one or two of these accidents could have been prevented, and obviously the most effective treatment of gunshot wounds is to see that they don't happen in the first place. The assurance of a proper, unobstructed target, and a complete familiarity with the mechanism of the gun and its killing potentialities would eliminate better than 90 per cent of hunting casualties. Still, hunting accidents do happen.

In combat, when gunshot casualties are to be expected, each doughboy carries his own first aid dressing on his belt, and he knows how to use it. Hunters might follow suit. This belt kit could well be supplemented by a first aid packet carried in the car or stored in camp. The expense is small.

When a gunshot wound occurs (or any other injury in which the skin is broken), the clothing should be cut away or otherwise removed from the area of the wound. If antiseptic is available, it should be applied to the wound and the skin around it as well. Otherwise the first aid dressing is applied directly to the wound and secured in position by the bandage.

Hemorrhage is usually controlled by the dressing, but moderate pressure of the open hand over the dressing may be of aid. If, however, the wound is in an extremity and has apparently injured a main artery, causing excessive loss of blood, a tourniquet should be applied. Your belt will serve as a tourniquet, and a small stick can be used to twist it tight. The tourniquet should be loosened at the end of an hour to prevent gangrene caused by stoppage of blood supply, but if bleeding recurs the tourniquet should again be tightened. Remember that death frequently results from shock; blood loss causes shock, and so does pain resulting from moving the patient or undue roughness in handling him. Often there is no pain immediately following injury, but it soon develops, so that speed in dressing the wound and gentleness in handling are essential.

Fluids should be withheld from patients with wounds of the abdomen.

If a fracture of a bone has occurred, it should be splinted as soon as the wound has been dressed and before the patient is moved. If the upper arm or shoulder is fractured, the arm should be secured to the side of the chest and the forearm carried in a sling. If it be the forearm or hand, it should be splinted on a board or some flat object about the width of the forearm which has been padded with clothing, and a sling applied. If hip or thigh has been fractured, the two extermities may be secured to each other until proper splinting can be obtained. If the injury is to knee or leg, a pillow secured by a bandage is a good splint, or brush wrapped in clothing may be used.

To carry out the wounded person, a stretcher may be improvised by using two long, straight poles and two or more hunting coats. Turn the sleeves inside out and run the poles through them, then button the coats.

Always remember that first aid is only first aid. Move the wounded individual to the nearest physician as quickly as is consistent with his comfort.

# Know your LAWS

### New features in trapping regulations for this fall

Sections of the law on fur-bearers were amended by the last Legislature to bring about several long-recognized and greatly-needed changes in the trapping regulations. Effective July 1st last, these include:

Extension of the zoning principle (applied before only to muskrats) to mink, raccoon and skunk, establishing Northern and Southern zones and fixing seasons for the species in each; also provision to take care of any abnormal muskrat trapping conditions which may arise in the Southern Zone. (If an investigation during March reveals that in the open season for 'rats in any Southern Zone county or part of the county reasonable opportunities were not afforded trappers to harvest the 'rat crop, the Department can extend the open season for not more than 20 days in such county or part of it.)

Constitution of the Northern Zone as that part of the State north of the New York Central tracks from Oswego to Syracuse and north of the New York Central and Boston and Albany tracks from Syracuse to the Massachusetts boundary; the Southern Zone includes the rest of the State.

No staking (let alone setting or placing) a trap or deadfall within five feet of a feeding house (in addition to 'rat house or den) at any time; and (to give equal opportunity to all) no traps to be set on opening day prior to 7 a. m.

Definition of a muskrat house or feeding house as structures built by a muskrat in which it can take shelter.

Removal immediately by the trapper of any animal found captive when he visits his trap line.

Setting concurrent seasons in each zone for mink, 'coon and skunk (except that the mink season closes later in the Southern Zone).

Fisher (in addition to beaver and otter) become a Department responsibility in fixing seasons and regulations for trapping, possession and disposition.

# LETTERS . . . to the editor

### ENLARGED PROGRAM

Dear Editor: I have just finished reading my *Conservationist* from cover to cover and I wish to congratulate you on the effort which you are making in the education line.

I would like to comment on the conservation program. The Commissioner in his first article divided the program into four parts which are all necessary for fish management. When I finished I looked back over the various appropriations and found that you are spending nearly three times as much for stocking as for all the others put together.

If I had a leaky rain barrel in which I wished to keep water, I would patch the barrel, not pour in water faster than it was leaking out. I think you are justified in spending the major part of the sportsmen's money in stream improvement and management. The same is true of hunting to an even greater degree. Stocking for the gun and creel is a waste of money and time and has the further effect of giving the sportsmen the impression it is helping their sport.

You sound your horn and say that we have the greatest system of game farms and hatcheries in the world. Doesn't it occur to you that we may have it because others don't want it. South Dakota, the greatest pheasant state in the Union, has no pheasant farms. Michigan and Illinois are reducing their stocking. Your greatest error has been not only to follow the demands of uninformed sportsmen but you have continued to laud your stocking programs, thus adding to the demand.

More money should be spent on education and well trained protectors who may guide the sportsmen in helping themselves. The basic conservation is the soil and thru your education program you must make the farmer more conservation minded. The major part of them think of game and hedgerows as only a necessary evil which they don't have the time to remedy.

I am proud to live in the Empire State but I believe in striving to make the best better.

Gary C. Taylor, Lockport

• *We appreciate your letter which we regard as constructive criticism. Our fish and game experts agree with you that habitat improvement in some situations may be more important than stocking which can only be done for certain species. At the same time they are not in complete agreement with you on all points. Specifically (1) our fish experts definitely believe in fish stocking as a fish management tool, especially in relation to trout. We are expanding this work because we have never yet been able to stock the full number of trout recommended by our biologists. (2) Our game experts believe that pheasant stocking can make a contribution to the recovery of pheasants from the present unprecedented low occurring as a result of several years failure of natural reproduction. During periods of abundance they believe that stocking can be sharply curtailed but even then there are certain areas where, because of excessive hunting pressure, there may be need to supplement limited natural reproduction. (3) All hands are agreed that habitat improvement, in co-operation with landowners, is something which should and, incidentally, is receiving greater attention. Logically, stocking should be curtailed as fast as habitat improvement makes our fields, woods and waters more productive.*

*As to conservation education we can only say—amen. The need is so great that the sky is almost the limit. In an unprecedented action we are now spending $100,000 on this endeavor. Probably that is about as far as our Department can logically go—but we are actively working with the Education Department to the end that the vast resources of our public school system can improve conservation education for all.*

*—Perry B. Duryea*

### DONALDSON WOODLOT

Dear Editor: I have just read with great interest the article in the June *Conservationist* entitled "The Donaldson Woodlot". I personally own a place eight miles from Livingston Manor consisting of 2,000 acres. . . . The article says that District Foresters are available for inspection, and I would be very glad to pay an experienced man, on his own time if necessary, to have him check this property and give me a report. Is such a survey within the province of your Department?

C. R. Vose, Brooklyn

Dear Editor: I just finished the article "The Donaldson Woodlot" and enjoyed it very much. It sounds just like our place here in Stormville except that the sawmill, I believe, came in after 1900. We bought our place in 1941 and one of the things we wanted to do almost immediately was to clear out our woodland so that good stuff would grow. However, the war came, and we have been building our house ever since—on week-ends and vacation periods of three weeks each year.

We are sincerely interested in improving our woods and would like to know more about the Forest Practice Act and the services rendered under this Act.

Grace C. Scottino, Stormville

• *Perhaps the second article by Messrs. Littlefield and Clingan, appearing in our August-September issue and entitled "The Lattabrook Woodlot", has already answered these inquiries. It was intended to. But in any case Mr. Vose's letter has been referred to the District Forester in his area, Earl Jadwin, in Middletown, and Mrs. Scottino's inquiry has been forwarded to District Forester E. D. Brockway in Poughkeepsie. There is no charge for the services these men render under the Forest Practice Act.—Editor*

### AUTOMATICS AND AUTO-LOADERS

Dear Sir: I noticed in the September issue of "Outdoor Life" a new deer regulation for New York State. It states that an auto-loading shotgun cannot be used on deer. I am hoping that this is an error on the part of "Outdoor Life." I find it incredible that you would, without warning, make such a drastic regulation, which would outlaw about 30% of the hunters guns. The auto-loader such as Remington No. 11, Winchester, Sportsman, Browning, etc. is the working man's allround gun, and usually he has no other.

Charles Romilly, Niagara Falls

• *The law, which has been on the books two years and which was extensively publicized at the time of its passage, provides that no person shall use in hunting, or possess in the fields or forests or on the waters of the State for any purpose (a) any automatic firearm, or any firearm which has been converted to the automatic type, or any firearm which has a built-in mechanical adjustment which will permit it to function as an automatic arm, or (b) any auto-loading firearm which contains more than six shells at one time in the magazine and chamber combined or which has not been altered so as to reduce the capacity of such firearm to not more than six shells at one time in the magazine and chamber combined.*

*An automatic firearm is defined as one which will continue to fire as long as the trigger is held back. An auto-loading firearm is defined as one which reloads itself after each shot and requires that the trigger be pulled back for each shot. See page 30, October-November 1946 Conservationist.—Editor*

### *WRITE SOON*

*Your editors, in one respect at least, are just like other people: they like to get mail.*

*They also feel that since this is your magazine, it is only fair to provide you with space to say what you think of it—space to criticize, commend, or inquire. So write soon. The address is: Editor of the Conservationist, Conservation Department, Albany 7, New York.*

### GUNS IN CITIES

Dear Editor: Will you inform me as to the proper way to carry an unloaded rifle, a .22 cal. as I walk out of the City. Should it be broken or closed? I don't want to break the law.

E. Carson, Cohoes

• *As far as the Conservation Law is concerned, you can carry it down Main Street loaded or unloaded, broken or closed. But watch out for municipal ordinances; you could find out about them from your police department.—Editor*

### FALL VACATIONS

Dear Editor: I've never written to a magazine before but your article on Indian Summer Vacations just cried out for an answer. For the past three years we have vacationed in the two weeks following Labor Day and will never, ever go back to a sweltering July or August vacation!

We sincerely hope that the public campsites will remain open longer in the future. The campsite we will visit this fall closes on September 15 but we won't be coming home 'till the 20th anyhow. If some of your readers take our advice and try an Indian Summer Vacation we are positive they will never change back.

Mr. & Mrs. Arthur McMullen, Fort Johnson

### CONSERVATION EDUCATION

Dear Sirs: I have no criticism of the magazine, but I would like to see more emphasis placed upon school conservation programs from time to time. With the increasing recognition of this phase of conservation education in our State, it should be interesting and valuable to give some notice to the fine work being done in some of our schools and colleges. It would help in the exchange of such information among schools, and stimulate others to build up their own conservation education programs.

Emery L. Will, Cornell University

• *Mr. Will is right. We're off to a start—and we hope it's a good one—with our series on Conservation Education.—Editor*

### TOO FAR AFIELD?

Dear Editor: Although I enjoy reading your magazine I must mention my pet peeve about your policy. It seems that practically everything mentioned in your articles has to do with places 300 miles from New York City.

You no doubt have many subscribers in New York City who get away week-ends for a little fishing and cannot travel too far for this sport. Certainly we would like to know something about the local reservoirs, such as Kensico. The only local lake you have described was Lake Ronkonkoma, and in your elaborate description all we fishermen got out of the article was that fishing was poor in that lake.

Please enlighten us city folk about a few places within traveling distance.

Edward Nalin, New York City

• *We've run feature stories on Kensico, Ashokan, Ronkonkoma, the Catskill reservoirs, our saltwater resources, striper fishing in the Sound and off Montauk, the Hudson River, Bear Mountain Park, and a good deal about hunting and fishing in the Catskills. If we seem to devote more space to activities further removed from the metropolitan area, that's because—whether we like it or not—sporting opportunity in general increases in proportion to the distance from New York City.—Editor*

### SPECIAL LICENSES

Dear Editor: I would like to know if you have to go to the County Clerk's office of the county where you want to hunt deer of either sex to get a license. Or can you get your license in the county you live in and say that you are going to hunt in a certain county? I am going to hunt in Allegany County and it would be pretty hard for me to get down there when they issue licenses.

Alexander Busch, Lockport

• *The license may be bought from any authorized issuing agent.—Editor*

### LAND MAP CORRECTION

Dear Editor: You can add a bit to your article on page 1 of the June-July issue about the picture on the inside cover. One would assume from the article that anyone could drive to the mouth of the Indian and go on down the Hudson, all on State land. I have a State land map dated 1948 showing the mouth of the Indian and the whole vicinity State land. The map with the last *Conservationist* shows the same.

But last week three men from the office went to the mouth of the Indian intending to fish the Hudson and were told by a man who has lived for years at Gooley's that his land had been leased to a private hunting and fishing club and that access to the lower Indian and to the Hudson near the mouth of the Indian was restricted. Upon being told that various maps indicate that the area around that section was all State land, he said that the maps were wrong and that the land belonged to him. It has been posted.

Are the State land maps in error to this extent or possibly is someone trying to close State land to the public for his own use? If I wish to canoe, camp and fish in this area, what rights do I certainly have without trespassing in any way.

A. A. Campbell, Delmar

• *The area in question, which includes Gooley's and about 1,000 acres in lots 2 and 3 of Township 16, was lost by the State in 1944 as the result of a defective tax title, but the Adirondack Land Map has not been revised to show that this area has reverted to private ownership. The map is correct, however, in indicating State land elsewhere in the vicinity, so that there is ample space for camping. Likewise, both the Hudson and the Indian are public waterways throughout their length.—Editor*

### PIGEONS

Dear Editor: I would like to know what is the law on/or protection for pigeons—the semi-wild corn fed type that fly from farm to farm on my upstate hunting grounds between Albany and Schenectady.

These birds, of the same family that eat peanuts in Washington Park and also decorate the statues, multiply into huge flocks during the summer and the farmers ask me to thin them out. A bushel basket full doesn't even seem to make a dent in their numbers.

Although I haven't been stopped yet by a Game Warden, I would like to know what would occur if I have a bag of pigeons.

Fred Guardineer, Babylon

• *The pigeons you mention are not protected by Conservation Law, since they are considered as domestic rather than wild birds. There is a special provision, however, protecting properly banded Antwerp or homing pigeons, so don't knock off one of those.—Editor*

### "THE BOOK OF FISHES"

Dear Editor: Re. the inquiry of A. M. Weiner of Brooklyn, N. Y. on fish plates. May I recommend the book, "The Book of Fishes", edited and sold by the National Geographic Society of Washington, D. C. for (I believe) $3.50.

This is a fine collection of color plates of fish, with fine photos and articles on fishing.

Julian W. Schwab, New York City

### LAY OFF, FRIEND

Dear Sir: Two months is entirely too long to wait for each issue of *The Conservationist*. Why not up the price to two bucks a year and send us twice as many copies?

Ed. Wickham, Sec.
Collins Conservation Club, Gowanda

• *Sure, we could double the price, but we wouldn't guarantee you'd get twice as many magazines; we got trouble enough right now.*
—Editor

### NO CIGAR

Dear Editor: I wish to report that on 27 July I caught a yellow perch with rod and reel that had the following measurements: length, 12 inches; weight, 9½ ounces. These figures were authenticated by W. C. Keenan, Town Clerk of Hague. The fish was caught in Warren County, and I would be interested to learn if it comes near to being a record catch.

J. P. McCormick, Silver Bay

• *We have no records on file for this species, but we do know of yellow perch with New York citizenship that have gone two pounds and measured 18 inches. Still, you got a good one.—Editor*

### TAGGED TROUT

Dear Editor: I am inclosing a tag taken from a lake trout from Seneca Lake on August 7, 1948. The trout was caught off Hazletts Point, the first point north of Peach Orchard Point. It was approximately 25 inches long and weighed exactly 7 pounds. The trout was tagged in the mouth.

Gerald R. Orsley, Vestal

• *This letter, along with the tag, was referred to Donald Pasko, Aquatic Biologist in our Western Fisheries District. He reports that tag E7261 NYCD was placed on a mature male lake trout netted and released at Peach Orchard Point on October 4, 1945. The fish at that time was 25¼ inches long and weighed five pounds, seven ounces. As a seven-pound lake trout usually measures at least 27 inches, Mr. Pasko thinks there must have been something wrong with the measuring system used by Mr. Orsley. In this work, the Departmest uses the total length from tip of nose to tip of tail. But many thanks to Mr. Orsley for his co-operation.—Editor*

### LAND ACQUISITION

Dear Editor: Please give all information about the State's rule of buying vacant farms. I have one I would like to let go.

Paul Bonhoff, Silver Creek

• *The State is acquiring abandoned and idle farm lands for reforestation purposes throughout the State generally, except within the Catskill and Adirondack Parks. The statute governing such purchases requires that we buy not less than 500 contiguous acres for each intial unit, and our policy to date has been to pay not more than four dollars per acre. All land acquisitions are handled directly by our District Foresters, and Mr. H. E. Dobbins, District Forester in your area, has been notified of your inquiry. If your property exceeds 500 acres in area, or is adjacent to other lands which might be acquired at our price, it is suggested that you get in touch with Mr. Dobbins.—Editor*

### GRAND LARCENY

Gentlemen: I've loaned out many of my *Conservationists* to my friends with a solemn promise of return. Result—I now have only six of my entire collection left. Crimes of this sort can lead to family feuds. The guys that snitch *Conservationists* wouldn't stop at house theft or treason.

Rolf Steinhauer, Edmeston

### FALL MUSKALONGE

Dear Editor: For the past six months I have been carefully reading your "Letters", hoping that I might come across the answer to my question. Time is getting short so I write you: Where in northeastern New York can I go muskie fishing?

Bruno Menin, New York City

• *Why not try the St. Lawrence between Ogdensburg and Massena? Or the Chazy River near Mooers?—Editor*

### BACK ISSUES

Dear Editor: How about some help from fellow sportsmen? I need the August-September 1946, October-November 1946 and the June-July 1947 issues of *The Conservationist*. I will pay a reasonable amount of cash for these, or maybe we can arrange some kind of swap.

Walter S. Davis,
1080 Central Avenue, Albany

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### PHOTO CREDITS

Second cover, Clayt Seagears; 4, 7, 23, Doug Finch; 10, Howard Upham; 16, 17, 18, Finch, Seagears, P. W. Fosburgh; 26, A. L. McDowell, Robert M. Roche; fourth cover, Ellen Edmonson. (Pilot for aerial, Fred McLane).

# Quips on Quackery

IF YOU want to go through life thinking an American Scoter is something you should buy the kid for Christmas, that's probably a good idea. But the boys with the high I.Q.'s on quacks might call you a buffle-head. Even a *female* buffle-head. That'd be pretty small indeed. In fact no duck is so stingy in the soup department.

If you know your ducks, you already know the answers. If not, the material on these two pages may help.

The big trouble with duck identifications is (1) there are a whole slug of 'em and (2) many kinds have three or four different decks of plumages. For example, nearly 30 species can be encountered in New York. Of these, take the pintail as reasonably typical. The adult male's plumage is much different from a young male's or an adult's in summer moult. Ma pintail's dress is still something else.

It's very difficult to identify many species at a distance. Experts of long experience can label only a comparative few on the wing. So we'll assume that the birds we're about to identify are in the bag. That would seem difficult enough.

It isn't though.

Fortunately, there are certain characteristics common to a single species regardless of plumage change or sex. These mostly are concerned with the shape of the bill and the color of the speculum (see wing sketch). Further, the shape of the hind toe substantially narrows the field for selection.

The head studies opposite show adult males in full plumage. So the markings won't do for females or for young or "eclipsed" males. But the *shapes of the bills* will do for all. There are three exceptions—the scoters, which most gunners collectively call "sea coot" anyway.

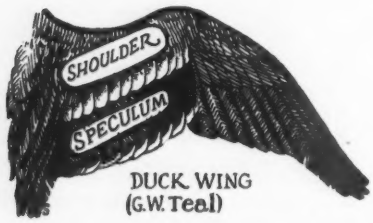
The chart should tell the rest of the story. Let's try it.

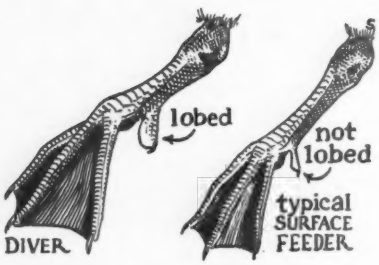
Junior, please hand over that duck. First, look at its hind toe. It's skimpy (see sketch). So it's a surface-feeding duck. That narrows the field to nine. What color is its wing speculum? Blue. The chart lists only three blue speculums. Is the duck large? No—about 1½ pounds. It's crested, too. The chart says definitely, then, that it's a wood duck.

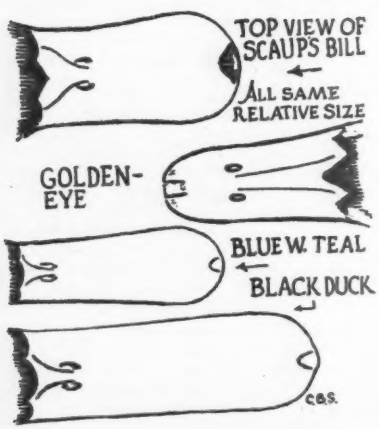
Take another. It's also a surface feeder. Its speculum is half white, half gray. Then it *must* be a gadwall, an uncommon duck which few can identify.

Try it on your own ducks. Then pluck, cover breasts with salt pork slices and cook 30 minutes in a hot oven.

—CLAYT SEAGEARS




## THE CONSERVATIONIST'S SIMPLIFIED DUCK CHART

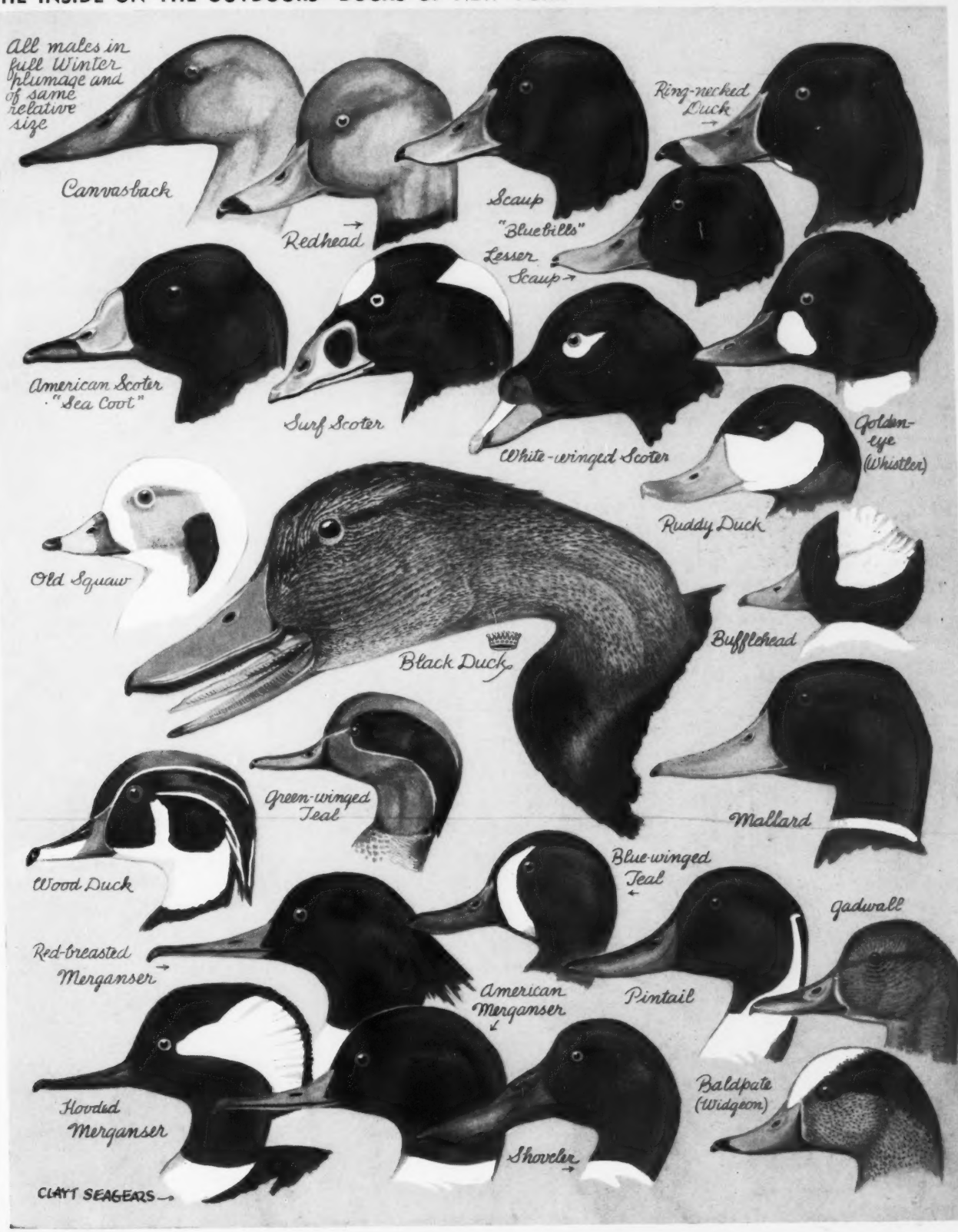
### DIVING DUCKS (Lobed hind toe)

| SPECIES | Average Length | Weight | Bill | Feet | Speculum | Miscellaneous |
|---|---|---|---|---|---|---|
| CANVAS BACK | 22" | 3 lbs. | Black, long, sloping | | Gray | |
| REDHEAD | 21" | 2¼" | Broad, gray | | Gray | |
| SCAUP | 18" | 2" | Broad, gray | | White | |
| LESSER SCAUP | 16½" | 1¾" | Broad, gray | | White | |
| RING-NECKED DUCK | 17" | 1¾" | Broad, gray; dark band | | Gray | |
| AMERICAN GOLDEN-EYE | 16" f.<br>19" m. | 1¾" f.<br>2" m. | Pinched | | White | |
| BUFFLE-HEAD | 12½" f.<br>14½" m. | 12 ozs. f.<br>1 lb. m. | Very Small, gray | | White | |
| OLD SQUAW | 15" f.<br>22" m. | 2" | Small | | Brown | Males have long tail feathers |
| AMERICAN SCOTER | 20" | 2½" | Medium | | Brown or black | Males all velvety black |
| SURF SCOTER | 20" | 3" | Medium or knobbed | | Brown or black | Males black with big white spots on head |
| WHITE-WINGED SCOTER | 22" | 3½" | Medium or knobbed | | White | Males all black with white on wing |
| RUDDY DUCK | 16" | 1½" | Broad and "dished" | | None | Narrow, stiff tail feathers |
| AMERICAN MERGANSER | 25" | 3¼" | Long, slim saw-toothed | Red or orange | | Not crested |
| RED-BREASTED MERGANSER | 22" | 2" | Long, slim saw-toothed | Red or orange | | Crested |
| HOODED MERGANSER | 18" | 1½" | Slim, saw-toothed | | | Crested |

### SURFACE FEEDERS (Hind toe not lobed)

| | | | | | | |
|---|---|---|---|---|---|---|
| BLACK DUCK | 23" | 3½" | | | Blue, not edged | May be slightly edged but only on outer ends |
| MALLARD | 23" | 3" | | | Blue with white on both edges | |
| PINTAIL | 22" f.<br>28" m. | 2" | | | Br'n or green with white outer edge | Long neck; males have long tails |
| BALDPATE | 19" | 2" | | | Black with greenish cast | Males have white top of head and shoulders |
| GADWALL | 19½" | 2" | | | Half white and half bl'k or gray | |
| SHOVELER | 19" | 1½" | Long, broad, side-strainers | | | |
| BLUE-WINGED TEAL | 15½" | 1" | | | - | Shoulders bluish gray |
| GREEN-WINGED TEAL | 14" | 13 ozs. | | | Green edged with white | |
| WOOD DUCK | 19" | 1½ lbs. | | | Blue | Crested |

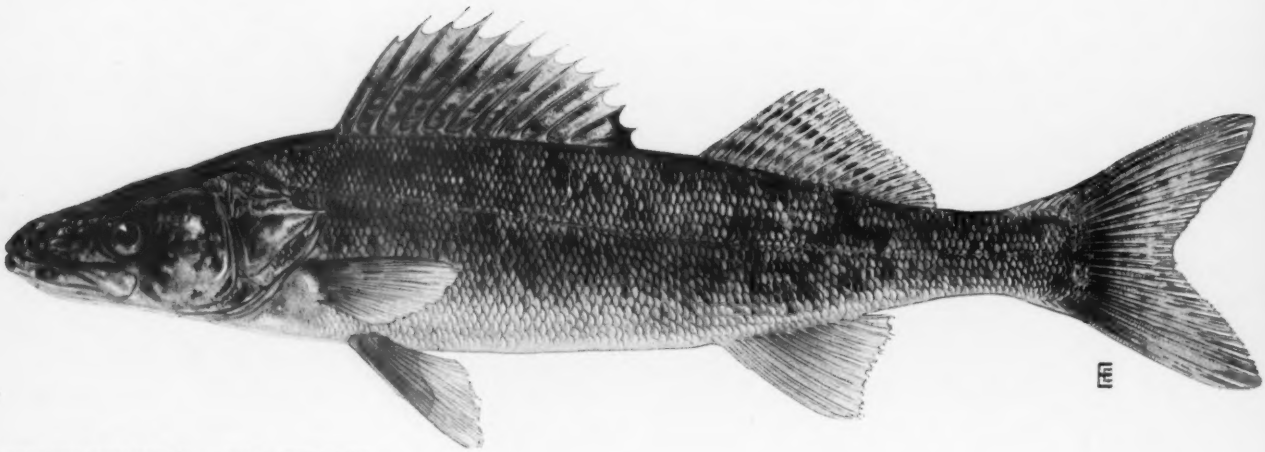
NOTE—The four other ducks most likely to be encountered in New York are: (divers) KING EIDER, large duck with feathers on FOREHEAD ending even with nostrils; AMERICAN EIDER, large with feathers on SIDE OF BILL extending to nostril; BARROW'S GOLDEN-EYE, like American Golden-eye but with smaller bill having raised nail; (surface feeder) CINNAMON TEAL, like Blue-winged Teal but head, neck, breast of breeding male all chestnut; female's bill longer than others'.


All males in full Winter plumage and of same relative size
Canvasback
Redhead
Scaup
"Bluebills"
Ring-necked Duck
Lesser Scaup
American Scoter
"Sea Coot"
Surf Scoter
White-winged Scoter
Golden-eye (Whistler)
Ruddy Duck
Old Squaw
Black Duck
Bufflehead
Green-winged Teal
Mallard
Wood Duck
Blue-winged Teal
Gadwall
Red-breasted Merganser
American Merganser
Pintail
Baldpate (Widgeon)
Hooded Merganser
Shoveler
CLAYT SEAGEARS

**SAUGER or SAND PIKE**

*Stizostedion canadense griseum (De Kay)*

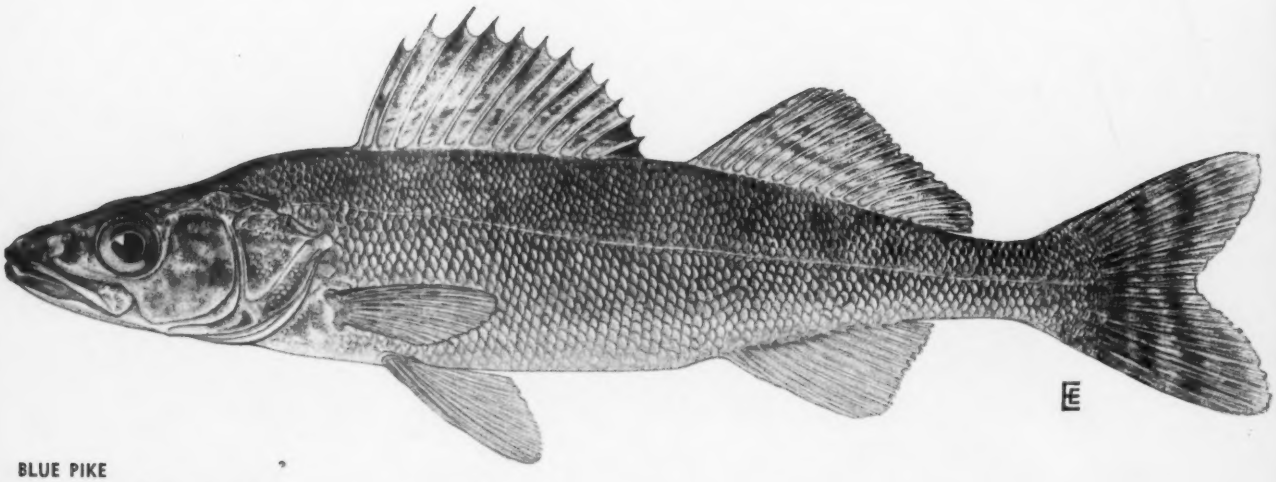
**From male 10¼ inches long**



**YELLOW PIKE-PERCH or WALL-EYED PIKE**

*Stizostedion vitreum (Mitchell)*

**From female 10¾ inches long**



**BLUE PIKE**

*Stizostedion glaucum (Hubbs)*

**From male 10¾ inches long**